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THE PRESENT PHASE OF PREHISTORIC ARCHÆOLOGY.*

WHEN the history of the intellectual development of the nineteenth century comes to be written, one of its more prominent features will be, the extraordinary attention which is being given to the exploring of the great void that extends from the historical border far away into the remote geological past. On the one hand, the spirit of criticism, taking nothing for granted, and emancipated from the trammels of authority, has sifted the true from the false in the documentary evidence which affords the basis for history; and, on the other, the scientific method of investigation from the

known to the unknown—from what is to what has been—has been applied with the most remarkable results to the examination of what happened before history began. The one principle, which is typified in Sir George Cornewall Lewis, has swept aside the myths that are the expression of the yearning for knowledge of their predecessors, which is felt by most thoughtful men, and boldly confesses ignorance; while the other, typified in Sir John Lubbock, takes up the story where it is dropped by history, and treats the ancient dwellings, and tombs, the implements and weapons, the dolmens and stone circles, which show that men lived in long forgotten times, by a strict comparison with the like things now in use by various tribes. To the combined action of these two principles is due the success which has attended the new science of Prehistoric Archæology. The interest with which it is regarded is shown by the fact, that Sir John Lubbock's 'Prehistoric Times' has reached a third edition within less than

* (1.) *Prehistoric Times, as illustrated by the Ancient Remains and the Manners and Customs of Modern Savages.* By Sir John Lubbock, Bart., M.P. Third Edition. 1872. 8vo. Williams and Norgate.

(2.) *Rude Stone Monuments in all Countries; their Age and their Uses.* By James Fergusson, D.C.L., F.R.S. 1872. 8vo. Murray.

(3.) *The Ancient Stone Implements, Weapons, and Ornaments of Great Britain.* By John Evans, F.R.S., F.S.A. 1872. 8vo. Longmans.

ten years, and that new works on the subject are being rapidly produced in every country in Europe—even in Spain; and its scope may be gathered from the fact that the archæologist stands with one foot planted in the province of geology, and the other well within the bounds of history. It is indeed the one missing link which was wanting to prove the continuity between the wonderful story of the changes which Nature has undergone in past times, and of the changes and vicissitudes of our race, which live in ancient records. We propose in this article to examine the present phase of the science, and to see how far it merits the sarcasms which have been levelled at it by Mr. Fergusson, in his ingenious work on 'Rude Stone Monuments.' We shall test the value of the objections which he offers to the conclusions of the archæologists from the standpoint of history, and which he considers to be unanswerable because they have been passed over in silence. The materials for restoring, so to speak, the history of the sojourn of man in North-western Europe, are increasing every day: the researches in the caves of Belgium, lately published by M. Dupont,* illustrate those carried on in Auvergne by the late M. Lartet, and our countryman, Mr. Christy,† and the explorations carried on in Spain and Gibraltar complete and round off our knowledge of the ancient inhabitants of Britain, revealed by the contents of the Neolithic caves and the tombs. The conclusions drawn by Dr. Nilsson,‡ as to the Stone Age in Scandinavia, can now be checked by those just published by Mr. Evans, as to the same age in Britain.

Before we can discuss the evidence as to the condition of man in Europe, north of the Alps, in prehistoric times, it will be necessary to examine the archæological classification attacked and misrepresented by Mr. Fergusson, both in the *Quarterly Review*,§ and in the work before us.|| It is thus defined by Mr. Evans.

* 'L'Homme pendant les Ages de la Pierre dans les Environs de Dinant-sur-Meuse,' par M. E. Dupont. Bruxelles, 1871. 8vo.

† 'Reliquie Aquitanice.' 4to, 1865, et seq.

‡ 'The Primitive Inhabitants of Scandinavia,' by Sven Nilsson, edited by Sir John Lubbock, 1868. 8vo. —Longmans.

§ *Quarterly Review*, April, 1869. This article is claimed by Mr. Fergusson.

|| 'Ancient Stone Implements of Great Britain.'

'Not the least misunderstood of these subjects is the classification of the antiquities of Western Europe, first practically adopted by the Danish antiquaries, under periods: known as the Iron, Bronze, and Stone Ages; the Iron Age, so far as Denmark is concerned, being supposed to go back to about the Christian era, the Bronze age to embrace a period of about one or two thousand years previous to that date, and the Stone age, all previous time of man's occupation of that part of the world. The idea of the succession is this:—

'1. That there was a period in each given part of Western Europe, say, for example, Denmark, when the use of metals for cutting instruments of any kind was unknown, and man had to depend on stone, bone, wood, and other readily accessible natural products for his implements and weapons of the chase or war.

'2. That this period was succeeded by one in which the use of copper, or of copper alloyed with tin—bronze—became known, and gradually superseded the use of stone for certain purposes, though it remained in use for others, and

'3. That a time arrived when bronze in its turn gave way to iron, or steel, as being a superior metal for all cutting purposes, and which, as such, has remained in use up to the present day.'

The first of these is again subdivided by Sir John Lubbock into that in which man was unacquainted with the art of putting an edge on his tools by grinding, or the Palæolithic, and that in which he was acquainted with the use of polished stone, or the Neolithic age. Thus we get past time out of the reach of history, divided into four ages; first, the Palæolithic or the rude stone age, then the Neolithic or Newer Stone Age, then that of Bronze, and of Iron. And these four divisions have been found applicable, not merely to Denmark or Britain, but to the whole of Europe, even to Greece and Italy. This classification by no means implies an exact chronology, or that any one of these ages, with the exception perhaps of the first, covered the whole of Europe at the same point of time, but that the order in which they followed each other is the same in each country which has been explored. There is every reason for the belief that at the time the Egyptian and Assyrian Empires were in the height of their glory, Northern Europe was inhabited by rude polished-stone using

racés. And it is a well-ascertained fact, that while the inhabitants of Britain and Scandinavia were in the Bronze Age, the Etruscans and the Phœnicians were in their full power in the south. It is obvious again that, even in the same country the poorer classes must have been long content to use the ruder and more common materials for their daily needs, while the richer and more powerful used the rarer and more costly. These three ages must therefore necessarily overlap. 'Like the three principal colors of the rainbow,' writes Mr. Evans, 'these three stages of civilization overlap, intermingle, and shade off the one into the other; and yet their succession, as far as Western Europe is concerned, appears to be equally well defined with that of the prismatic colors, though the proportions of the spectrum may vary in different countries' (p. 2).

Mr. Fergusson assumes, so far as we know without the slightest shred of evidence, that these ages are hard-and-fast chronological divisions; and he then proceeds to show with what ease the assumption which he puts into the mouth of the archaeologists may be destroyed by an appeal to history. 'The Danish antiquaries,' he tells us (pp. 9, 10), 'were somewhat divided in opinion as to the exact period when bronze was first introduced, some carrying it back as far as 2,000 B.C., others doubting whether it was known in Denmark more than 1,000 or 1,200 years B.C.; but all agreed that iron was introduced about the Christian era. Having satisfied themselves on these points, the Danish antiquaries proceeded at once to apply this system to the monuments of their country. Any tomb or tumulus which was devoid of any trace of metal, was dated at once at least 1,000, probably 2,000 B.C., and might be 10,000 or 20,000 years old, or even still older. Any tomb containing bronze was at once set down as dating between the war of Troy and the Christian era; and if a trace of iron was detected, it was treated as subsequent to the last-named epoch, but still as anterior to the introduction of Christianity, which in Denmark dates about the year 1,000 A.D.'

This system seemed so reasonable and philosophical compared with the wild theories of the British antiquaries of the last century, that it was instantly adopted both in the country of its birth and in England and France; and the succession of

the three ages, stone, bronze, and iron, was generally looked upon as firmly established as any fact in chronology. Gradually, however, it has been perceived that the hard-and-fast line at first drawn between them cannot be maintained.

We are not aware of any archæological work which affords grounds for any such statements, and without something more definite than 'Danish antiquaries' we cannot admit that they are substantiated by facts. It is perfectly true that in Denmark, as in England, iron was in use about the time of the Christian era, and that bronze was used before in both these countries; but no modern Danish, and much less an English archæologist, has ventured to say *when* the iron superseded the bronze, or even by whom it was introduced, or to assert that a tomb containing bronze must belong to the interval between the Trojan war and the birth of Christ. The very loose way in which the term bronze is used, implies that Mr. Fergusson has not mastered the literature of the subject; for while a bronze sword, or spear, or arrow-head would be considered as belonging to the Bronze Age, the date of a bronze ornament, or a knife handle, is just as likely to be after as before the Christian era. That question could be settled only by its workmanship. In archæology, indeed, as in geology, an absolute date is impossible, and the archæological 'when' merely signifies a definite relation to some other well-ascertained event, without any reference to the lapse of time between them, which can be decided with any precision only by documentary evidence. We know, for example, as a matter of experience, that the Palæolithic preceded the Neolithic Age, but the length of the interval between the two, or between either, and our own time, is altogether hidden. With respect to that we can only say that certain physical changes have taken place since the one or the other, which, judged by the present rate of change, must necessarily have demanded a long time. If it be assumed that the rate of change has always been uniform, then, in a rough sort of way, we may obtain what may pass for an archæological date; but even then it is a mere assumption based upon an improbability. The delta of a river, for example, may be forming at the present time at a certain rate, but that depends upon various complex conditions, such as the rainfall, the

quantity of forest on the land which the river drains, and the condition of the bed over which it flows, as well as upon the climate, and several other considerations. A change in any one of these would produce an alteration in the net result, and so invalidate the conclusion. And the same objection applies also to the excavation of valleys by rivers, or to the accumulation of detritus, used as a means of estimating the lapse of time outside history. None of these give the slightest precision to any guess as to the absolute age of any given phenomenon, as Mr. Evans has well pointed out. Had Mr. Fergusson read with any care Sir John Lubbock's 'Prehistoric Times' before he wrote his review, he could not have misrepresented English archæology as he has done; and had he studied Nilsson, he might have been spared the effusion of so much scorn on the northern antiquaries. Prehistoric archæology is based upon as sure an induction as any other of the sciences, and the method by which it arrives at any result is identical with theirs. The fact that no such views as those which Mr. Fergusson attacks are held by 'competent archæologists,' may, perhaps, account for the silence which he imagines to be due to the unanswerable nature of his arguments.

Mr. Fergusson speaks of the division into the ages of iron, bronze, and polished stone, as if it were invented by the Danish school of antiquaries, but it is, to say the least, as old as the days of Lucretius:

*Arma antiqua manus, unguis dentesque fuerunt
Et lapides, et item sylvarum fragmina rami,
Posterior ferri vis est aerisque reperta,
Et prior aeris erat quam terri cognitus usus:*

*Ære solum terræ tractabant, æreque belli
Miscebant fluctus, et vulnera vasta serebant.'*
De Rer. Nat. v. 1282.

This distinct enunciation of the three stages of progress is corroborated by many other authors. Hesiod, for example, writing about 850 B.C., mentions a time when bronze had not been superseded by iron. In Homer, arms, axes, and adzes of bronze are continually mentioned, while iron is of far less frequent occurrence. Even Virgil, acutely observes Mr. Evans, preserves the unities and often gives to the heroes of the *Æneid* bronze arms, as well as to some of the people of Italy. The fact that in the Greek language the words *χαλκός* and *χαλκείν* were applied to the working in iron, affords a strong, if not an

irrefragable argument as to bronze having been the earlier metal known to that people. Or again, if we appeal to the Penta-teuch, exclusive of Deuteronomy, according to Sir John Lubbock the word bronze is used thirty-four times, and iron only four times. In Egypt, also, we find no trace of iron till the twelfth dynasty, although the copper mines of Maghara were worked in the second, or about 800 years before. The use of bronze implements in religious ceremonial, such as the ploughing of the Pomoerium with a bronze plough-share, and the use of bronze knives for cutting the hair by the Sabine priests, and many other like cases, which are quoted by Mr. Evans, show that in Southern Europe bronze was at one time the only metal known, and that it was being superseded by iron about the time of the Trojan war.

The evidence is scarcely less clear, that before bronze was known stone was the only material used for cutting purposes, even in the regions occupied by the civilized peoples of antiquity. 'The transition,' writes Mr. Evans, 'from ancient to venerable, from venerable to holy, is as natural as it is universal; and in the same manner some of the festivals and customs in Christian countries are directly traceable to heathen times, so on doubt many of the religious observances of ancient times were relics of what was even then a dim past' (p. 7).⁶ On such a view as this, the practice of cutting open the body by the Egyptians in the rite of embalming, with a sharp Ethiopian stone, can alone be explained, although the brain was removed by a crooked iron. The rite of circumcision, as practised by the Jews when they came out of Egypt, was performed with a sharp stone, or flint, and notably in the case of Joshua circumcising the children of Israel (Josh. v. 2). In the account of his burial the Septuagint version states that the stone knives were laid in his tomb. Indeed, according to Mr. Evans, under certain circumstances, the rite is performed at the present time by the Jews with a piece of flint, or a fragment of glass. Solemn treaties among the Romans were, according to Livy, ratified by the sacrificing of a hog with a sharp stone during the Punic wars. In these and the like cases, the use of stone has been ingrafted into the religious ceremonial, just as the vestments of an ordinary Roman gentleman have come

to be looked upon as a necessary part of the ritual of an English High Churchman. Both are cases of survival, and both point back to a time when they were used in every-day life.

The superstitions which cluster round 'elf darts,' or flint arrow-heads, and thunder-bolts, or polished stone-axes, are precisely of the same significance. In nearly every country in Europe they have been looked upon as supernatural. In the West of England the rustics hold that the thunder-axes, as they term the celts, once fell from the sky; and in Cornwall the water in which they have been boiled is considered a specific for rheumatism. Mr. Evans states that he has known a case in Ireland of a stone celt being borrowed to be placed in the troughs from which the cattle drank, 'on account of its healing powers.' In France they are known very generally as *pierres de tonnerre*, and are used for purifying water, or for bringing good luck to the possessor; and in various parts of the Continent they are supposed to preserve the house from being struck by lightning. A remarkable celt of jade, from Egypt, in the Christy Collection, with its sides covered with a Gnostic inscription in Greek, proves that celts were regarded by the Gnostics as possessed of some mystic power. They were called by the ancient Greeks 'Keraunia,' and according to Sotacus, quoted by Pliny, were endowed with various magic powers. The same may be said of the flint arrowheads, which have been mounted and used for charms, from the days of the Etruscans to the present time. From this the conclusion may fairly be drawn that there was a time when the use of stone implements prevailed in Europe, and that 'this period is so remote, that what were then the common implements of every-day life have now for centuries been regarded with superstitious reverence, or as being in some sense of celestial origin, and not the work of man's hands' (p. 56).

The ages, therefore, of iron and bronze are proved to have existed in the remote past, by an appeal to history; and by an analysis of the superstitions we have every reason to believe that they were preceded, as Lucretius wrote, by the age of polished stone. And when we find that stone axes, and bronze and iron implements, occur in every country in which search has been made for them, in human dwellings and

tombs, in distinct suites, and associated with other articles which imply three distinct stages of civilization, it is impossible for any unprejudiced mind to ignore the full weight of the argument. Nevertheless, that they overlap is distinctly recognised by every man who has studied the subject. When Mr. Fergusson points triumphantly to the discovery of bronze ornaments in Saxon and Romano-Celtic tumuli in Derbyshire as disproving the archaeological classification, he shows a strange ignorance of archaeological literature. In the very first systematic work published on the subject, that of Sir John Lubbock, nearly all those cases which he quotes in disproof of 'a hard-and-fast distinction between the ages of flint, bronze, and iron, which have hitherto been supposed to govern every determination of age in this science,' are cited in proof of such an overlap. We challenge Mr. Fergusson to point out in any modern systematic work on archaeology a single passage in which any such view is held.

The evidence of a Palæolithic Age, before any of these, is so strong that it is universally admitted, even by Mr. Fergusson.

We will now proceed to discuss a few of the more prominent points connected with these ages, and first with regard to the Palæolithic. The rudely chipped flint implements, discovered in the river gravels of France, Germany, and Britain, prove the existence of man in North-western Europe at a time so remote from the present that some valleys, such as that of the Somme, have been cut down by the existing rivers, to a depth of from eighty to a hundred feet in the interval. And the bones associated with them in the same strata show that the fauna differed materially from that now living in Europe. The lion, for example, which in the days of Herodotus lived in the mountains of Thrace in sufficient numbers to descend in bands to prey upon the baggage camels of Xerxes, then ranged through France, Germany, and Britain; and the spotted hyæna, which is now found only in Southern Africa, was found in abundance as far north as Yorkshire, and from the pillars of Hercules as far east as the frontiers of Russia. The grizzly bear of the Rocky Mountains extended as far to the south-west as the shores of the Mediterranean; and the musk sheep, which at present dwells in the inclement region of

the extreme north of America, lived in Europe as far south as a line passing through the Alps and the Pyrenees. Among the extinct animals, the more important are the great hairy rhinoceros, and the mammoth, the Irish elk, and the gigantic cave-bear. To this strange group of animals must be added all those wild species which still inhabit Europe, and among them the reindeer and the bison were incredibly abundant. The flint implements, which prove that man formed part of this fauna, indicate that he was in the lowest stage of culture; so rude indeed are they, and so unlike those which are at present in use among savage tribes, that it is impossible to make out for what purpose they were employed. We may indeed rather ask, with Sir John Lubbock, 'to what need of savage life could they not be applied?' Besides the larger forms, which for want of better names are known as spear-heads and sling-stones, flint-scrapers are found, which from their analogy with those of the Eskimos must certainly have been used in preparing hides, as well as flint-awls for boring holes, and flint-flakes for cutting purposes. This short list exhausts all the known forms of flint implements which have been furnished by the ancient deposits of rivers; and it tells us little but the mere fact that savage tribes lived in France and Britain, while the strata which geologists term pleistocene or quaternary were being accumulated. It is impossible to bring their makers into relation with any races living at the present day.

If, however, we turn to the traces of man which have been discovered in caves, in various parts of Europe, we shall be able to fix with tolerable certainty one at least of the races. The exploring of caves, first of all begun in this country by Dr. Buckland, and carried on with most extraordinary success in nearly every part of Europe, has yielded results which are of the highest value to the historian, since they have been used by man as places of habitation from the remotest times to the present day. The labors of the late M. Lartet and Mr. Christy,* in the caves of Auvergne, have afforded us as perfect a picture of the ancient inhabitants as that which we obtain of Roman life from the buried cities of Pompeii or Herculaneum. Besides the

rude flint implements of the same order as those described above, although they are on the whole smaller, were various articles made of bone and reindeer antler, to which a definite use can be assigned. In the mass of detritus which covered the rocky floor were layers of broken bones, flint saws, whetstones, fragments of charcoal, bone needles, and curiously barbed heads of harpoons, javelins, and arrows, made of reindeer antler, bone awls, and many other articles to which no definite use can be assigned. The most remarkable objects were the carvings on slate, reindeer antler, and ivory, which are by no means of a low style of art. The subjects generally chosen were the animals which were hunted by the cave-dwellers, and to which the fragments of broken bone belonged; either a fish, or the horse, bison, ibex, or, as was more frequently the case, the reindeer. In one case only has the human figure been represented. Sometimes the animals are depicted in groups, but all, with one exception, are without their feet, a peculiarity which, according to Mr. Franks, is probably due to the fact that the realistic artist merely engraved what he saw of the animal, the feet of which would be concealed by the long grass. The subjects chosen were sometimes singularly appropriate to the material which was employed. The handle of a poignard, for instance, made of reindeer antler, was carved so as to represent the reindeer kneeling down, and with the head thrown back, so that the antlers rested on the neck. And on a portion of fossil ivory, a mammoth was represented with such fidelity that the spiral curvature of the tusks, the long shaggy mane of the animal, and the large hairy ears, stamp at once the species to which it belonged. From this we must picture to our mind that these ancient dwellers in caves lived by hunting and fishing, that they were acquainted with fire, that they were clad with skins sewn together, probably with sinews, or with strips of intestine. That they did not possess the dog is shown, not merely by the negative evidence of its not having been discovered, but also by the fact that those bones are preserved which are invariably eaten by the animal, such as the vertebrae of the reindeer, and other animals. They did not possess any domestic animals, nor were they acquainted with the art of making pottery.

Similar discoveries have been subse-

* *Reliquæ Aquitanicæ — Cavernes du Périgord.* *Revue Archéologique*, 1864.

quently made in various parts of France, and in Great Britain, in a cave near Wells,* and in Kent's Hole, near Torquay,† which is now being explored by the British Association. And that the same race of men lived in Belgium is established by the labors of Dr. Dupont,‡ and in Suabia through the discovery by Professor Fraas of a refuse heap with implements of the same class resting on the surface of a moraine of the glacier of the Rhine.§

Nor can there be very much doubt as to the ethnological relation of this ancient, nameless people to the Eskimos. If the harpoons and arrowheads be compared together, the only difference is that those from Auvergne generally bear a groove on their barbs. The mode in which the head is fastened to the shaft is identical in both; the fishing spears, bone needles, and flint scrapers are also identical in form. The Eskimos of West Georgia made their knives out of walrus tooth, and ornamented them with carvings of the spinal column of fishes; the cave-dwellers in Auvergne used antlers of reindeer for the same purpose, adorned with carvings of that animal. Both races also are small of stature, and both are in the habit of crushing the bones of the animals which they eat, and allowing them to accumulate in and around their habitations. There is an equal disregard to the rites of sepulture also in both, if the few teeth and fragments of human bones which M. Lartet discovered in Auvergne among the refuse be taken into account. The style of art even is identical, each representing their daily avocations in the same way. And if the whale or walrus be not found in the sculptures of Auvergne, or the mammoth and ibex in those of West Georgia, it is merely because these animals were unknown to the hunters in those regions. The conclusion to be drawn from this, that the inhabitants of Auvergne were Eskimos, is considerably strengthened by a consideration of the animals found in the caves. The reindeer and musk-sheep afford food to the Eskimos now, just as they afforded it to the palæolithic hunters in Auvergne. No naturalist would doubt that the musk-sheep living at that time in Europe is identical in species

with that of North America; and although the animal is extinct in Europe and Asia, the remains found in Siberia by the Russian explorers show that formerly it occupied the whole of that area. The enormous distance of Auvergne from the northern shores of America, therefore, cannot be considered an obstacle to this view, for, to say the least, palæolithic man would have the same chance of retreating to the north-east as the musk-sheep. Neither Sir John Lubbock nor Mr. Evans have realized the full weight of this evidence, although the former has devoted a chapter to the manners and customs of the living Eskimos.

The few human skeletons which have been found either in cave or river deposits do not throw any light on this interesting question, for although the skull from the cave of Bruniquel, described by Professor Owen in the *Philosophical Transactions*, as well as those from the gravels of the Seine discovered by M. Bertrand, belong to the same long-headed section of the human race as the Eskimos, there are other races which are long-headed. The famous cranium discovered by Dr. Schmerling,* in 1833, in the cave of Engis, is also long-headed, but its age seems to us doubtful, since it was discovered in a bone breccia which might have been consolidated at any subsequent time. The mere fact of its being associated with the bones and teeth of the extinct mammalia does not necessarily prove that it is of the like antiquity; for had it been deposited where it was found long after these animals had become extinct, it may have been cemented by the drip of the water into the same hard mass. The subsequent discovery by Dr. Dupont† of fragments of pottery which cannot be distinguished from the coarser sorts used in the Neolithic age, points to the same conclusion. To the same class belongs also the skull found in the cave of Neanderthal, which, according to Professor Huxley, is the 'most pithecoïd of all known human skulls.' Its strange form, however, may be a mere peculiarity of the individual, and the conditions under which it was found do not prove that it belonged to the Palæolithic age.

Mr. Evans is inclined to believe that the palæolithic men who lived in caves were

* *Quart. Geol. Journ.*, vols. xviii. and xix.
'Hyæna Den of Wookey Hole.'

† *Brit. Assoc. Reports*, 1865, et seq.

Op. cit.

§ *Geol. Magazine*, iii. p. 546.

* 'Les Ossements Fossiles des Cavernes de Liège,' 4to, 1833.

† *Op. cit.* Introduction.

the same as those who have left their implements in the river strata. The rarity of the larger forms in the cave deposits he believes to be due to these instruments having been mainly used for what may be termed out-of-door purposes. This seems, however, to us hardly a sufficient explanation; for although they may have been used, as Mr. Prestwich suggests, for breaking holes in the ice, it is very improbable that they should have been stowed away in a palæolithic tool-house, outside the caves, while their owners lived inside. As the evidence stands at present, we are not justified in arriving at any conclusion on the point. The subdivision also of the caves, into ages, according to the various types of implements found in them, proposed by M. de Mortillet, seems to us unsatisfactory, for there is no greater difference in the implements of any two of the palæolithic caves than is to be observed among those of two different tribes of Eskimos, while the general resemblance is most striking. The difference is probably the result of different families having occupied different caves, but whether this happened at the same time, or at successive times, is an open question. Some caves, such as Kent's Hole, must have been occupied for a very long period, since the implements are found at various depths below the stalagmite, as far down as thirty feet. So great an accumulation of earth, bones of extinct animals, and large stones, could not have been formed in a few years. Nor can they be subdivided by an appeal to the remains of the animals which they contain, as M. Lartet has attempted, since no two caves would be likely to contain the remains of the same animals in the same proportions, even although they were living in the immediate neighborhood. It is, of course, easy to say that a given cave belongs to the age of the reindeer, because it contains the remains of that animal, or to the age of the mammoth, because the mammoth has been found in it; but the division has been rendered worthless for chronological purposes by the fact that both these animals occupied the region north of the Alps and the Pyrenees at the same time. Nearly every palæolithic cave, explored in France, Germany, or Britain, has furnished the remains of these two animals.

We must now pass on to the examination of the evidence offered by the cave of Aurignac, which is almost universally ac-

cepted as establishing the fact that men believed in the supernatural in the palæolithic age. The ready faith with which this view has been accepted stands in marked contrast to the scepticism, which refused to recognize the value of the discovery of flint implements in the caves of England and Belgium for more than a quarter of a century, and up to within three years of the time when M. Lartet began his examination of Aurignac. The importance of analyzing the evidence on which M. Lartet's theory is founded can hardly be overestimated in the present state of archaeology. If the human interments really be of the same relative date as the extinct mammalia found in the cave, and M. Lartet's interpretation of the circumstances be true, then, to quote Sir Charles Lyell, 'we have at last succeeded in tracing back the sacred rites of burial, and, more interesting still, a belief in the future state,' to the palæolithic age, and we have a powerful argument against the progressive development of religious ideas. If, on the other hand, the interments be not proved to be palæolithic, the sooner an element of error is removed from a most difficult problem the nearer shall we be to its solution. Sir John Lubbock and Mr. Evans are the only archaeologists who have expressed any doubt as to the truth of M. Lartet's interpretation, and their doubts are justified by the unsatisfactory evidence on the point.

M. Lartet's account falls naturally into two parts: first the story which he was told by the original discoverer of the cave; and, secondly, that in which the results of his own discoveries are described. We will begin with the first. In the year 1852 a laborer, named Bonnemaison, employed in mending the roads, put his hand into a rabbit hole, and drew out a human bone, and having his curiosity excited, he dug down until, as his story goes, he came to a great slab of rock. Having removed this, he discovered on the other side a cavity of seven or eight feet in height, ten in width, and seven in depth, almost full of human bones, which Dr. Amiel, the mayor of Aurignac, who was a surgeon, believed to represent at least seventeen individuals. All these human remains were collected, and finally committed to the parish cemetery, where they rest to the present day undisturbed by the sacrilegious hands of archaeologists. Fortunately, however, Bonnemaison, in digging his way into the grotto,

had met with the remains of extinct animals and works of art, and these were preserved, until, in 1860, M. Lartet accidentally heard of the discovery, and investigated the circumstances himself. He found that Bonnemaïson and the sexton who had buried the human remains had taken so little note of the spot where they were interred that it could not be identified, and on examining the cave he found that the interior had been ransacked, and the original stratification to a great extent disturbed. M. Lartet's exploration showed that a stratum containing the remains of the cave-bear, lion, rhinoceros, hyæna, mammoth, bison, horse, and other animals, and palæolithic implements like those of Périgord, extended from the plateau on the outside into the cave. On the outside he met with ashes, and burnt and split bones, which proved that it had been used as a feasting place by the palæolithic hunters; within he detected no traces of charcoal, and no traces of the hyænas, which were abundant outside. Inside he met with a few human bones in the earth which Bonnemaïson had disturbed, which were in the same mineral condition as those of the extinct animals, and he therefore inferred that they were of the same age. Such is the summary of the facts which M. Lartet discovered. He has of his own personal knowledge only proved that Aurignac was occupied by a tribe of hunters during the Palæolithic Age.

Is he further justified in concluding that it was used as a sepulchre at that remote period? Bonnemaïson's recollections may be estimated at their proper value by the significant fact that, in the short space of eight years intervening between the discovery and the exploration, he had forgotten where the skeletons had been buried. And even if his account be true in the minutest detail, it does not afford a shadow of evidence in favor of the cave having been a place of sepulture in palæolithic times, but merely that it had been so used at some time or another. If we turn to the diagram constructed by M. Lartet to illustrate his views (*Ann. des Sc. Nat. Zool.*, iv. ser., t. xv., pl. 10), and made for the most part from Bonnemaïson's recollections, or to the amended diagram given by Sir C. Lyell (*Antiq.*, Fig. 25), we shall see that the skeletons are depicted *above* the stratum containing the palæolithic implements and the quaternary mammals, and

therefore, according to the laws of geological evidence, they must have been buried after the subjacent deposit was accumulated. The previous disturbance of the cave-earth altogether does away with the value of the conclusion that the few human bones found by M. Lartet are of the same age as the extinct mammalia in the deposit. The absence of charcoal inside was quite as likely to be due to the obvious fact, that a fire kindled inside would fill the grotto with smoke, while outside the palæolithic savages could feast in comparative comfort, as to the view that the ashes are those of funeral feasts in honor of the dead within, held after the slab had been placed at the entrance. The absence of the remains of hyænas from the interior is also negative evidence, disproved by subsequent examination.

The researches of the Rev. S. W. King, in 1865, complete the case against the current view of the palæolithic character of the interments, since they show that M. Lartet did not fully explore the cave, and that he consequently wrote without being in possession of all the facts. The entrance was blocked up, according to Bonnemaïson, by a slab of stone, which, if the measurements of the entrance be correct, must have been at least nine feet long and seven feet high, placed, according to M. Lartet, to keep the hyænas from the corpses of the dead. It need hardly be remarked that the access of these bone-eating animals to the cave would be altogether incompatible with the preservation of the human skeletons had they been buried at the same time. The enormous slab was never seen by M. Lartet, and it is very hard to understand how it could have been removed by one workman cutting a trench after a few hours' work; and it certainly did not keep out the hyænas. In the collection made by the Rev. S. W. King from the interior there are two hyænas' teeth, and nearly all the antlers and bones bear the traces of the gnawing of these animals. The cave, moreover, has *two* entrances instead of one, as M. Lartet supposed when his paper in the '*Annales*' was published. The bones of the sheep, or goat, also obtained from the inside, and preserved in the Christy Museum, afford strong evidence that the interment is not palæolithic, and a fragment of pottery agrees exactly with that which was used in the Neolithic Age. It

is indeed one of the signs of the extreme youth of archæology, that such an important revelation as that supposed to be afforded by Aurignac should have been universally accepted without question. The cave was certainly occupied by palæolithic men, and, as in many others, after they had departed it was used as a burial place by some other people, most probably during the Neolithic age. It is very hard to ruthlessly pull in pieces the beautiful story told by Sir Charles Lyell and M. Lartet, and it is very much easier and more comfortable to believe than to disbelieve it. Nevertheless, we cannot allow that the recollections of a French mender of roads are a sufficient basis for a scientific theory. Men have buried their dead in caves in all times, and therefore the mere discovery of human remains in a cave does not prove the vast antiquity which it is sometimes considered to imply by the French and Belgian *savants*.

The interments in the Trou de Frontal, which are considered by M. Dupont* to be of the Palæolithic Age, and those in Cromagnon in the Dordogne, † are open to precisely the same objections as the cave of Aurignac; and as the evidence stands at present, it is not too much to say that there is not a single well-authenticated instance of a palæolithic interment in any part of Europe. We must be content to acknowledge that at present we have no evidence either for or against man's belief in the supernatural at that remote period in the earth's history.

The discovery by Dr. Falconer ‡ of flint flakes in the limestone caves near Palermo show, that at the time the palæolithic men were hunting the reindeer, mammoth, musk-sheep, woolly rhinoceros, and other animals which were capable of enduring a climate more or less severe in the region to the north of the Alps, there existed in Sicily a race of men to whose eyes the African elephant and a small species of hippopotamus were familiar. It would, of course, be idle to speculate as to the affinity between the two, but if we allow that the palæolithic men of the caves of Northern and Central Europe were Eskimos, and treat them just as a naturalist would treat the associated ani-

mals, it is improbable that they occupied the region south of the Alps and the Pyrenees, since neither the reindeer, nor the musk-sheep, nor the other arctic immigrants found their way into Italy or Spain.

This very meagre outline of the conclusions which may be founded on the earliest traces of men which have been found in Europe, is the utmost that we are justified in drawing. It tells us nothing of man's origin, but it proves that he arrived here a very man, so far as we can tell, not allied in shape or form to the lower animals to a greater extent than at the present time. The skull found at Clichy was of fair average capacity.

The conditions under which palæolithic men lived in Europe were very different from those under which we live. On the one hand, the mainland extended to the north-west far into the Atlantic, and Britain and Ireland were united to the mainland, the English Channel and the North Sea being low valleys, through which great rivers flowed, of which the Thames, Rhine, and Severn are merely the smaller branches. In the South of Europe, also, the geography was altogether different, the mainland of Africa being joined to Spain, and a barrier of land extending from Tunis to Southern Italy. Candia also was joined to Greece, and the area of the Mediterranean was reduced to two or three landlocked basins, the positions of which are discovered by the deeper soundings. We can therefore understand why at this time African animals, such as the elephant, and the hippopotamus, and spotted hyæna, should have found their way into Europe. The very substitution also of a mass of land such as this for a stretch of sea would cause the climatal extremes to be more strongly marked than at the present time. The summer heat and the winter cold in Central Europe somewhat resembled that of Siberia, and to this may be attributed the strange association of northern and southern animals, such as the hippopotamus and the reindeer, in the area extending from the Alps and Pyrenees to the Baltic. To the north of this the temperature was probably arctic, and to the south it was probably warmer than it is now. In the middle area *mers de glace* occupied certain isolated districts, such as Ireland, the greater part of Scotland, Wales, Lancashire, and Yorkshire, Auvergne and the Pyrenees.

* *Op. cit.*

† *Rélique Aquitanica.*

‡ 'Palæontographical Memoirs,' vol. ii.

It is very generally believed by archæologists that man first appeared in Europe after the depression of temperature in the north which culminated in the glacial period, because flint implements have occurred in Britain in strata which rest on the boulder clay, or the detritus left by the glaciers, at Hoxne in Suffolk, Bedford, and many other places. This, however, merely proves that man lived in Great Britain after the glaciers had begun to retreat, and it tells us nothing as to the date of his first occupation. And since the animals among which he lived in Central Europe arrived here before the maximum severity of the glacial period had set in, man is just as likely to have been pre-glacial as post-glacial in North-western Europe. It is quite possible that the caves of the South of England and of Auvergne were being used as habitations by ancient man during the glacial period in the north; for the continuous ice sheet did not extend further south than a line passing east and west through the lower valley of the Thames. The many speculations which have been made to estimate the date of the glacial period, and to which Sir John Lubbock has devoted a chapter, seem to us all unsatisfactory, because the problem is infinitely complex, and some of the factors unknown in the present condition of science.

Palæolithic men dwelt in Europe for a considerable length of time, which may be measured by the occurrence at Salisbury of implements in two undisturbed river deposits, one of which stands some sixty or seventy feet above the other. It is clear that the river could not have cut the valley down to that extent in a short time. Then they disappeared, along with the peculiar animals which characterized that stage in the history of Europe—the musk-sheep, mammoth, woolly rhinoceros, cave-bear, and other creatures; and there is no evidence that their blood flows in the veins of any people now living in Europe. They may have been driven out by neolithic invaders; but in that case there was probably the same antagonism as that which prevents any communication between the North American Indians and the Eskimos. The interval between them and their successors, of whom we have clear evidence, is enormously great, and its length can only be estimated by the great physical changes which took place.

Out of forty-eight species of animals then inhabiting Britain, no less than one-quarter disappeared before the succeeding or Neolithic Age. It is very probable also that in this interval Britain was severed from the Continent, and became physically very much what it was when our history began.

The Neolithic or polished-stone using peoples differ most remarkably in every respect from the palæolithic races which preceded them in Europe. Their implements are so unlike, that with the exception of the flint flakes, which were used for cutting purposes down to the historic times, and the scrapers used for preparing the skins, it is impossible to mistake the one set for the other. The very lowest tribe with which we are acquainted, or that which lived on the shores of the Baltic by hunting and fishing, was possessed of the dog; and the higher communities were farmers and husbandmen of no mean and contemptible order.

The Neolithic dwellers on the Swiss lakes were in a far higher state of civilization than these Danish fishermen and hunters. We owe the discovery of their dwellings to the unusually dry season of 1853-54, which revealed the treasures concealed beneath the waters of the Swiss lakes, just as they had been left by the ancient inhabitants. There were two distinct groups of piles, the one composed of small pieces of wood, and placed within fifteen or twenty yards of the shore, while the other, made of larger and more firmly driven-in timbers, was situated farther away from the borders of the lakes. Around them lay the contents of the houses which they had supported, which, very generally, like the Roman villas in Britain, had been destroyed by fire. The one kind, or those built in-shore, were surrounded with numerous stone and bone implements, and furnished no trace of metal, while the other supplied large quantities of bronze weapons, implements, and ornaments, as well as those of stone. Messrs. Keller* and Troyon,† therefore, refer the one to the Neolithic, and the other to the Bronze Age. And that this division is fair, and not founded on imperfect evidence, is proved by Dr. Keller's tables of all the articles

* 'The Lake Dwellings of Switzerland and other Parts of Europe,' by Dr. Ferdinand Keller, edit. by J. E. Lee, Esq. Longmans, 1866.

† Sur les Habitations Lacustres.

which were discovered. Thus at Wangen, 1,610 stone objects were found, and no metal; at Moosseedorf, 639; at Nussdorf, 1,230; and Wauwyl, 274. On the other hand, the second group, surrounding the better built piles, consisted of large quantities of bronze articles. At Cortailod 835 articles were found, at Estavayer 617, at Corcelettes 518. Had these settlements been inhabited by the same people at the same time, such a marked difference would have been impossible.

The remains scattered round the neolithic piles give a vivid picture of the modes of life of the lake villagers. Stone axes, sometimes rude, sometimes polished, are very abundant, and were doubtless put to similar uses as the North American tomahawk. Arrows, slingstones, and spears were the missile weapons. The antlers of deer, fashioned into a rude kind of hoe, and fragments of stone let into the bases of antlers, were probably employed in tilling the ground. Spindle-whorls imply a knowledge of spinning, while burnt fragments of a rudely plaited cloth show that the material they used was flax. They also had bast for fishing nets and for ropes. They did not live merely by the chase, although wild animals formed the larger portion of their food. In the refuse heaps Dr. Rüttimeyer* has detected, besides the remains of the brown bear, fox, and beaver, the elk, ibex, bison, and urus, those of two kinds of domestic pig, the turf-hog (*sus palustris*), which is closely allied to that which has been domesticated in China from time immemorial, and a second, like the gaunt, long-legged old Irish breed, descended from the wild-boar. The sheep resembled our mountain breeds, and differed from the ordinary form, in the small size, 'fine legs, and short goat-like horns.' There were also the goat, and three breeds of cattle, the domesticated urus, from which our larger breeds are descended, the *Bos frontosus*, still living in this country, and the small Celtic, short-horn, *Bos longifrons*. The two last, it may be remarked, were the only domestic cattle in Britain at the time of the Roman Conquest, our common large breeds being derived from ancestors introduced by the English. The dog, used probably in hunting, bears a strong resemblance to the beagle.

We are not left to infer their knowledge of agriculture from the implements alone. The fires which consumed their dwellings have preserved the very cereals that they cultivated, in a carbonised form.

Moosseedorf and Wangen have furnished two kinds of barley, three of wheat, and two of millet. Ears of the six-rowed barley (*Hordeum hexastichum*) are abundant, which was a species, according to De Candolle, cultivated by the Greeks, Romans, and Egyptians; but they are much smaller than any of that sort which is now under cultivation. Egyptian wheat (*Triticum turgidum*) also, and small dried apples and pears, some of which are larger than any now growing wild in the district, were stored up for winter use.

'Neither hemp (writes Sir John Lubbock, p. 213), oats, or rye have yet been found. Small pieces of twine and bits of matting, made of flax, may have been part of some article of clothing. For this purpose also, there can be little doubt that the skins of animals were used. Fragments of leather have been met with; and some of the stone implements seem well adapted to assist in their preparation, while the bone pins and the needles made from the teeth of boars, may have served to fasten them together.

'Dr. Heer, from whose very interesting memoir the above facts are borrowed, calls particular attention to the fact that while the remains of wild species found in the Pfahlbauten agree in the most minute particulars with those still living in Switzerland, the cultivated plants, on the contrary, differ from all the existing varieties, and invariably have smaller seeds or fruits. Man has evidently in the course of time effected considerable improvements. It is also very interesting to observe how the evidence derived from these Swiss lake-dwellings agrees with the evidence contained in the most ancient writings that have come down to us. Thus, flax is mentioned in the 'Pentateuch' and in 'Homer'; it was also largely used by the ancient Egyptians, while hemp seems to have been unknown until a later period. So also wheat and barley; but neither oats nor rye are mentioned in Exodus or by Homer. Even in the time of David, when Barzillai the Gileadite "brought beds, and basins, and earthen vessels, and wheat, and barley, and flour, and parched corn, and beans, and lentiles, and parched pulse, and honey, and butter, and cheese of kine," it will be observed that neither oats nor rye are mentioned. Flax also is mentioned nine times in the Old Testament, and linen thirteen times, but hemp not once.'

The evidence derived from the animals is precisely of the same kind. The wild species have remained unchanged, while there are minute differences observable when the domestic animals of the pile dwellings are compared with our own. This difference is a measure of the changes

* Fauna der Pfahlbauten. 4to. Basel.

which have been brought about by man since that time, and is a very interesting link in the chain of argument by which Mr. Darwin shows the variability of animals under domestication. Our larger fruits, cereals, and animals are the result of a selection continued for a very long time in one direction. During the Neolithic Age in Switzerland, the domestication of the *Bos longifrons* had been carried on for such a length of time that it was split up into two distinct strains, the *Bos frontosus* and the *Bos longifrons* proper.

It is a very significant fact that the domestic animals and cultivated cereals and fruits make their first appearance in Europe *en masse*, and not one by one. It implies that the ancient neolithic villagers arrived in Europe with their flocks, and herds, and seeds. The southern character of the cereals, and the inability to which Mr. Darwin has drawn attention, of the tame cattle to endure the severity of a long winter without the help of man, point to the south-west, to the great plains of Central Asia, as the locality whence this early people came. They were the first shepherds and the first tillers of the earth with whom we are acquainted. They must also have carried on a rude kind of barter, since jade, amber, and flint are substances foreign to Switzerland; the last was probably obtained from the shores of the Baltic. Unfortunately no skeletons have been obtained, to give us an idea of the *physique* of this most interesting people. Similar pile-dwellings have been found, not merely in Switzerland, but in Germany, Lombardy, France, and Ireland.

Sir John Lubbock is of opinion that the domestic urus and the breed of pigs descended from the wild boar, were descended from wild European ancestors; but it seems to us more probable that they were domesticated in Middle Asia, where the wild boar is still living, and which is now the home of wild cattle, although the urus is not now known to exist there. Mr. Sclater, an eminent authority on these questions, believes that all these domestic animals were derived from Middle Asia. This group of domestic animals spread under the care of man throughout Europe, from Scania to the extremity of Switzerland, just as we might expect to be the case, if their masters invaded Europe, from the great steppes of Asia, by the same route as the Celts, and Germans,

and Slaves. Whether their masters came into contact with any other people who inhabited Europe before their arrival is uncertain; but that they did not intermingle with the palæolithic race is proved by the fact that the stone implements characteristic of each are never found together. This negative argument is of great weight, because of the very wide basis on which the induction is founded. A neolithic tribe dwelt in the Grecian Archipelago, under conditions of life very different from those in Switzerland. M. Fouquet (in the *Revue des Deux Mondes*, October, 1869, 'Une Pompeii Anté-historique'), gives a most graphic account of the discovery of dwellings which lie buried in the tufa that covers nearly the whole island of Therasia. The workmen employed in obtaining hydraulic cement for the Suez Canal were obliged to stop at a point where the tufa became impure, and mingled with numerous blocks of lava, that have long been known to be the crests of walls and the tops of old habitations. The principal building explored was composed of six rooms, of unequal size, with a small courtyard on one side. The walls are made of rough irregular masonry, of blocks of lava, disposed without order, with their interstices filled with volcanic ash, and between each block long and tortuous branches of olives had been placed to break the shocks of earthquakes—a device that is still known in the island. Inside the rooms there was a coarse stucco, and at the external angle of one of the walls there were horizontal slabs of worked stone. The northern façade is pierced with two windows. The fact that the walls are made of lava implies that the building was made before the whole face of the country was covered up with the spongy tufa which now rests upon it; and there can be no doubt that this building, which lay under a thickness of twenty metres of tufa, was built on the then surface of the soil, on a bank of volcanic cinder, and before the tufa had been ejected, which, for time out of mind, has been used in the islands for houses and tombs.

Numerous objects were found inside this remarkable group of buildings. There were vases made of earthenware and lava; store-pits for grain, straw, bones of animals, implements of flint and lava, and a human skeleton, but no trace of any metal. The vases were found standing full of the various substances which had been stored

away by the ancient inhabitants. Some contained barley, others the seeds of umbellifers, probably coriander and arise, small peas, and other substances too much decomposed to be identified. These vases are identical in every respect with those which were used in Greece in classical times for keeping cereals. In several chambers also barley was found heaped up against the partitions. Other vases, made of a much finer pottery, are adorned with patterns in circles in right lines, and colored with a red, more or less dark. But the most remarkable have been formed of a bright yellow earth, and ornamented with figures composed of points and of curved lines, used with extremely good taste. Sometimes they represent garlands of foliage, and they indicate great freedom of touch (*une grande habileté*) on the part of the workman, or rather artist, who made them. Some large vessels, made of pottery, were full of chaff, ready cut for domestic animals. The troughs were very massive; some were standing in the courtyard, and others in those chambers in which sheeps' bones were found. There was also an olive press of lava, of exactly the kind which is still used by the peasants of the Archipelago. Hand-mills were also found, made of lava, differing in no respect from those used now in the island of Santorin, except that the latter is possessed of a wooden handle in the upper stone, which adds very much to the ease with which the grinding can be carried on. There were also stone discs, and two implements of flint, of forms very common in neolithic times. The one is a triangular arrow or lance point, and the other is a flake, or denticulated scraper.

A human skeleton lay crouched up in a corner; one of the legs was stretched out, and the other crossed over it. The man to whom it belonged seems to have died suddenly; probably he was killed by the breaking down of the roof from the weight of the tufa above it. This whole scene tells its own story at a glance. The subterranean energy which had slumbered for ages suddenly woke, and the volcano poured forth a cloud of tufa over the hastily deserted village like that which is so graphically described in the memorable eruption of Vesuvius by the younger Pliny, by which Herculaneum was destroyed.

M. Fouquet argues out with remarkable clearness the results of these explorations.

The volcano from which the tufa was thrown that now covers the whole of Santorin and Therasia, is represented by the bay in which recently there were such astonishing disturbances. The fact that the ancient dwellings underlie the tufa, and that the cereals and the like were left in the houses, show that the ancient inhabitants had to fly away for their lives. The olive was common then instead of the vine; the people were agricultural, and grew abundance of barley; they knew also how to extract oil from the olives. The absence of metal implies that they were living in the Neolithic Age; the dressed blocks of stone used in some parts of the walls that they were good stone-masons, while their pottery proves them to have been possessed of a taste almost Eastern in its delicacy. This pottery, M. Fouquet thinks, must have been conveyed from a distance, but it may possibly have been formed from materials which are now concealed under the tufa. The flint, however, and the obsidian, are substances unknown in the island, and were probably derived from some other region. On the top of the tufa there are ruins of numerous Phœnician tombs, a fact which shows that the habitations built on the ancient soil, now twenty metres below, were buried before the island was inhabited by that great trading people. How much before it is impossible to tell, but the Phœnicians would hardly have been likely to have founded Gadir (B.C. 1200) in Spain before they had colonised the fertile islands of the Grecian Archipelago.

The neolithic peoples were also dwellers in caves. In Denbighshire, for example, recent investigations have shown that they inhabited the caves and rock shelters of the district, and accumulated in them broken bones of the animals, wild and domestic, which they used for food, belonging in the main to the same species as those lying round the pile-dwellings in the Swiss lakes; and these places of habitation were sometimes used as cemeteries. Each of the caves, for instance, in the immediate neighborhood of an ancient refuse heap at Perth Chwareu, contained a large number of human skeletons* of all ages and of both sexes, buried in a crouching posture, and associated with flint flakes and axes of polished stone. Similar traces of neolithic

* *Journ. Ethnol. Soc.*, Jan. 1871, p. 440.

occupation and burial have been observed in the caves of France, Spain and Portugal, and Gibraltar.* It would indeed seem, from the researches of M. Delgado, in those of Portugal, that the inhabitants were cannibals, since large quantities of human bones, burnt, broken, and split, like those of the animals which had been used for food, were furnished by the Grotto of Cesareda and the Casa da Moura. The same evidence of cannibalism in Caithness has been brought forward by Mr. Laing,† and in Belgium by Dr. Spring. Among the animals found, which furnished food to the neolithic dwellers in Caithness, was the reindeer. The existence of this animal in Scotland, as late as the year 1159, is incidentally mentioned in the Orkneyinga Saga, in which year the Jarls of Orkney, Ronald and Harold, are said to have crossed over into Caithness from Orkney to hunt that animal. We are glad to see that Sir John Lubbock has admitted, in his last edition, that this notice in the Sagas is probably true. The animal is by no means rare in the peat of Scotland.

A great many of the tumuli which lie scattered over the face of nearly every country in Europe, may also fairly be assigned to the Neolithic Age. Those which contain a stone chamber with a passage leading to it, named 'gang-graben' by Nilsson, 'gallery-graves' by Dr. Thurnam, have been found alike in Scandinavia, France, and Britain, and in no authenticated instance have furnished articles of bronze or iron where they had not been previously disturbed. They have, however, very frequently been entered by men, from time to time, either from curiosity or from the vague idea that they contained treasure,—a fact which is overlooked by Mr. Fergusson, in his eager haste to prove that all have been made after the Christian era. The tumulus of Uley, for example, in Gloucestershire, he assigns to a post-Roman age, because a coin of Valentinian was discovered in it, ignoring the fact that

a coin of Edward IV. was also found. In other cases the chambered tombs contain fragments of pottery, which Mr. Fergusson considers Roman, and to be evidence that they were erected after the Roman Conquest. But this argument is worthless, because it is impossible to tell the difference between neolithic pottery and some of the ruder sorts used in Britain by the Romano-Celts, to say nothing of the probability of the tombs having been entered long after they had ceased to be used as places of sepulture.

The polished stone axes, and many other objects, discovered in the neolithic tumuli, are considered by Sir John Lubbock to be merely touching instances of individual affection, and not to imply a belief in a future state. It seems to us, however, extremely improbable that men would put valuable property into a tomb as a mere token of affection; and the habit of most savage tribes, at the present time, of burying articles with the dead for use in the world of spirits, would naturally explain the presence of the like objects in the tumuli. The few and rude objects which are found in some of the tumuli may, perhaps, have been due to the poverty of the dead man, or to the fact that models, in some perishable material, were buried along with the dead. The latter custom was very prevalent among the Egyptians and Assyrians, and still is to be observed in most of the funerals of our nobility, where a tinsel coronet represents that which is too valuable to be interred in the family vault. According to Dr. Thurnam, human sacrifices were offered in honor of the dead; and this conclusion—which is founded on the cleft skulls in the chambered tomb of West Kennet, and some other localities—if true, would at once decide the question of a belief in a future world.

There must have been an intercourse between widely distant portions of Europe during the neolithic times, since amber beads and gold are found both in France and Britain. The amber certainly could not have been obtained from any spot nearer than the eastern coast of England or the Baltic.

(To be concluded.)

* 'Internat. Congress of Prehistoric Archaeology, Norwich,' vol. for 1868. Bask on 'Caves of Gibraltar;' Boyd Dawkins's 'Early Antiquities in Portugal.'

† 'Prehistoric Remains of Caithness.' Laing and Huxley.

WANDERING TROUBADOURS.

By the term "Troubadours" we mean the poets who flourished over Southern France during the Middle Ages. The theme is one of many sides, each of which is well worth examination. The origin of these poets; their connection with the German Minnesingers and the Moorish minstrels; the character of their poetry; the influence which they exercised over the minds and habits of their contemporaries; their academies, their courts of love, and the peculiar theory of that passion which they propounded—offer matter for many deeply interesting chapters.

The Troubadours formed two widely different classes. There were those who sang by inclination, and there were those who sang by profession. Among the former were great princes, like *Cœur de Lion* and *Alfonso el Sabio*; great barons, like the Counts of Poitou and Provence; and an infinite number of lesser but still powerful châtélains, like *Saveri de Mauleon* and *Bertrand von Born*. The professional jongleurs were of various orders. Some were of noble, others of plebeian, birth; some were stationary, and others itinerant. A number of the former were men who, wearying of a vagabond life, had taken service with the wealthier barons. A number were also that most interesting class, the cavalier-serventes of the châtélaines.

We shall confine this paper to the wandering Troubadours. Of these, there were several who entertained a high opinion of their craft, considering that they had what is now called "a mission," and looking upon themselves as the regenerators and benefactors of society. Perhaps half-a-dozen out of several thousands regulated their conduct in conformity with these elevated notions. Conspicuous among these few was *Giraud de Borneil*, who flourished in the thirteenth century. He was born of poor parents at *St. Gervaise*, a small hamlet of the province so prolific of song and songsters, the *Limousin*. By some means or other, he acquired a passion for learning, which is, perhaps, the only passion that never yet was baffled. The winters he devoted to study, and the summers he spent in wandering through the South, accompanied by "two excellent musicians," who sang his songs. The Provençals esteemed *Borneil* the greatest of their poets, and termed him "the Master of the Trouba-

dours." But this opinion has not been shared by such admirers and competent judges of Provençal poetry as *Dante* and *Petrarch*. The former, while making honorable mention of *Giraud de Borneil*, places *Arnaud Daniel* in—

Versi d'amore, e prose di Romanzi
Soverchio tutti.

And the latter pronounces the same *Daniel*—

Gran maestro d'amor, ch' alla sua terra
Ancor fa onor col dir pulito, e bello.

In another respect, however, *Giraud de Borneil* fully merited the respect that his countrymen accorded him. *Nostradamus* testifies that "in person he was beyond measure chaste and temperate," and that he was "superior in prudence, generosity, and integrity to all the other poets." Many princes sought to win him to their service by tempting offers; but disdaining all subjection and all restraint, including that of matrimony, he continued to the last his peculiar course. Parsimonious to himself, except in matters literary, he divided his gains, which were considerable, between his poor relations and the church of his native village. He died at a ripe age in 1278.

The average troubadour thought far more of amusing his audience than of improving it. Far from being a moral teacher, he was, in nine cases out of ten, just the reverse,—being very much more of an acrobat and a buffoon than of a poet. In this respect he paid much less attention to the counsels of *Vidal*, *Nat de Mous*, and *Raymond de Miravels* than to those of *Giraud Calanson*, who concludes an elaborate lecture to his comrades in this way:—"Learn to play on the tabor and the cymbals, to prepare nine instruments with ten cords, to handle the many-stringed fiddle, to strike the harp and the guitar, to blow the flute, and to contrive a dance that shall suit the notes of the bagpipe. Learn also to throw and catch little balls on the points of knives, to play tricks with baskets, to imitate the chirrup of birds, and to jump through four hoops." The practice of these fiddling and juggling tricks degraded the profession,—a thing that was greatly deplored by high-minded trouters. One of this class, *Giraud Riquier* of *Narbonne*, petitioned *Alfonso el Sabio* to exercise his

authority in restoring the gay science to its pristine dignity. As a means thereto, Giraud suggested the publication of an edict in which the poets, the singers of poetry, and the buffoons should be classified apart. Alfonso made no attempt to effect this arrangement; perhaps he saw that it lay beyond his power: nor did any other prince accept the task from which he shrank. So, until Provence ceased to be the land of song, the name Troubadour continued to confound the man of original genius and exalted sentiment with the merest stroller.

This is not the place for an examination of the causes that rendered the occupation of the jongleur so profitable as it really proved. We must content ourselves with remarking that the Provençals of all grades were enthusiasts in their admiration of song and liberal to excess in their reward of singers. Money, clothes, jewels, and horses were scattered in profusion among them. Posts and pensions, too, were to be won by proficiency in the gay science. And there is one instance on record wherein a large estate was given for a single composition. Taraudet de Flassans purchased the manor the name of which he bore from Foulquet de Ponteves for a piece entitled *Instructions to secure one against the Treacheries of Love*. Concerning this composition it has been remarked by the Monk of the Golden Isles, a mediæval biographer of the trouveres, that its instructions could not have been of much value, since vendor and buyer were alike and egregiously deceived of their dames.

Old Provençal poetry abounds with allusions to the munificence of patrons and the good fortune of poets. More valuable still for our illustrations of the standing of the latter are the denunciations of niggardly barons and avaricious trouveres—characters sometimes to be encountered even in the South—that form the substance of not a few tenzons and serventes. We give one specimen. Hugues de St. Cyre happening to pay a visit to the Count of Rhodéz, whose hospitality he had formerly experienced, was received with less warmth and liberality than he conceived to be fairly his due. Retiring to a neighboring castle, he composed the following delectable cobbole, which he despatched forthwith to the Count:—

Don't be afraid, my mettlesome blade,
Nor raise your brow, nor straighten your leg;
I assure you I have not come to beg.

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Of this world's goods I have all I need.
As for yourself—if you're short of self—
Since it well may be
That times have changed with you as with me—
I have no objection my pockets to rifle,
In order to hand your Countship a trifle—
I verily think it would be a good deed!

To this piece of cool impudence, the Count, who was also a rhymor, replied on the spot:—

You wretched scamp! you inveterate tramp!
Tell me, do you forget or no,
Ent'ring my castle some years ago,
Naked without, and empty within,
A very scarecrow, ragged and thin?
'To fatten you up and put you to rights
Cost me more than the board of a couple of
knights,
With their tail of archers and squires;
And now—by the souls of all my sires!
Those who hear I know will believe—
You unparalleled screw! You worse than Jew!
Were I to offer a palfrey or two—
By jingo! you're just the sneak to receive!

Not content with this elegant exchange of compliments, the Count summoned his neighbor to dismiss Hugues forthwith. The neighbor refused in a biting song, to which the Count replied in similar form. The affair culminated in one of those endless feuds so frequent in the good old times.

All things considered, it was but natural that the profession should become, as it did, the last resource of those who failed in other pursuits. For instance, Elias Carel was a jeweller and heraldic engraver; Elias of Bariols a bankrupt merchant; Peter of St. Remi a ruined spendthrift; Arnaud de Marveil a notary without practice; William Adhemar an unsuccessful soldier; and numbers, as Aubert of Pucibot and Peter Rogiers, runaway Monks. Still the trouver's craft was not to be assumed off-hand. Facility in rhyming, an ear for music, a vein of low humor, a fiddle, a good stock of impudence, and even a capacity for "jumping through four hoops," were not the only essentials. Something further was requisite, which was only to be learnt by associating with recognized members of the brotherhood. For example, the poetic stock of imagery was limited, and so were the uses of each particular figure. There was one kind of metre appropriated to the canzon, another to the tenzon, and a third to the servente. Rhyme and cadence, too, had their laws, which could only be infringed by a genius of the highest order. There were also what may be called stage rules. A good song had

to be given in attractive form in order to render it popular; and, as all great poets are not blessed with pleasing voices, the troubadour who was merely a poet found it indispensable—as in the case of Giraud de Borneil—to consort with those who could sing. It was also found that monotony “did not pay,” and therefore declamation, farce, and tumbling were added, one after another, to the entertainment. Thus the performance of the troubadour assumed a dramatic form at an early period, and necessitated corresponding skill on the part of the performer. Besides, there were certain usages with respect to copyright, which, as the following anecdote will show, it was of some importance to understand. Albert of Sisteron, a poet of the cavalier-servente order, on his death-bed entrusted his compositions to his comrade, Peter of Valieras, directing the latter to present them in the composer’s name to his lady-love, the Marchioness of Malespina. Peter proved unfaithful to the trust reposed in him, and sold the songs to a wandering minstrel, Fabro of Uzes, who sang them as his own. The deceit was soon detected; but, so long as Fabro confined his peregrinations to Lombardy and Piedmont, it remained unpunished. In Provence, however, a different fate awaited him. There the Courts of Love took cognizance of such offences, and before one of these courts Fabro was speedily cited. He had no choice but to appear, for every inhabitant of the country was the unpaid but zealous servant of the tribunal, and such a thing as contempt of court was quite impossible. By some means left untold, the attendance of an important witness—Peter of Valieras—was secured at the trial. Therein Fabro was found guilty, and sentenced to be whipped—a sentence that was rigorously executed. We may remark that similar jurisdiction was exercised in Rhineland by the piper-kings of Rappolstein—potentates whose connection with the troubadours and the Courts of Love offers a subject for interesting discussion in the proper place.

It was customary for intending trouveres to place themselves under the instruction of properly-qualified teachers. In the earlier times the disciple followed and waited on the master—pretty much as Elisha devoted himself to Elijah—nor did the one think of setting up for himself until the other had abandoned the road. Thus the

trouver, Oliver, was attended by Elias of Bariols. And thus a poet whose real name is forgotten under the sobriquet Cercamons (*cherchemonde*), which he derived from his irresistible liking for vagabondage and the extent to which he gratified it, was followed by the somewhat better known Marchebrus. This Cercamons is pictured in old manuscripts in the habit of a traveller—that is, on foot—with his tunic tucked up to his belt, and over his shoulder a staff, to the end of which a bundle is slung. The scholar of this worthy was, in his way, a representative man. He was a foundling, whom Aldric de Villars, a Gascon baron, picked up in one of his fields and educated with a view to the church. The *protégé*, however, frustrated the views of the patron by falling in love with the life of a troubadour, and absconding with Cercamons in his fifteenth year. While playing the part of fag, he bore the name of Pan Perdit, probably in allusion to the comfortable livelihood which he had sacrificed. Eventually his name was altered to Marchebrus, or Mark the Severe, because his strength lay in satire. Not less a wanderer than his master, he traversed many lands, extending his rambles as far as Portugal. Everywhere he sang against current vices, to which unfortunately his censure was not confined. He dealt just as harshly with individuals, and thus made many enemies. Finally, several barons of Guienne, whom he had exasperated by his serventes (*satires*), waylaid and put him to death. Nor was Marchebrus—who must not be confounded with another of the name who flourished 200 years later—the only troubadour who suffered thus and for the like cause.

Another method of acquiring the trouver’s skill was by attending those baronial and princely courts which the fraternity was accustomed to haunt. In this way, men of noble birth became adepts in the gay science. At a later day, professors of poetry located themselves in the chief Provençal cities, where they seem to have found abundant occupation. A celebrated trouver, Peter Cardinale, settled thus at Tarascon towards the close of the thirteenth century. He gave such general satisfaction, that the commune took him into its service, and assigned him a large stipend out of the public revenues. Robert, Duke of Calabria, visiting the place shortly afterwards, was so much pleased with the con-

duct of the men of Tarascon and their professor, that, in the name of his father, who was Count of Provence, as well as King of Naples, he confirmed all the privileges of the city, and exempted it, besides, from imposts of every kind for ten years, on the sole condition that the professorship should be maintained. Another of these professors was Bertrand of Pezers, who, as Nostradamus writes, "for a long time kept a public school of Provençal poetry." Among his pupils was a young lady of rank, who was surpassingly beautiful, and who sang marvellously. Bertrand taught her to make verses. Nor was this the limit of his instructions. The professor, as well as the pupil, was young and handsome, and there soon occurred precisely such an event as is commemorated in the old Scotch ballad of the "Gaberlunzie Man." Thenceforward, the professor's occupation was at an end. Partly to avoid the indignation of the lady's relatives, and partly to procure a subsistence, the pair became wandering *trouvères*, a career in which more than average success attended them. Their story was soon widely known, exciting much sympathy and more curiosity. Thus, wherever they went, they were secure of a favorable reception, an advantage of which they took care to make the most. Previous to entering a *château*, they were accustomed to make minute inquiries respecting the inhabitants. "Then," writes our authority, "and with wonderful quickness, they would compose a song ornamented with the memorable deeds—in love, war, and the chase—of the *châtelain* and his progenitors." It need hardly be added that they were always richly rewarded. On one occasion, however, they were guilty of a small error of judgment. It happened when Giovanna I. of Naples and her newly-wedded second spouse, Louis of Taranto, were compelled to take refuge at Avignon from the vengeance of the Hungarian monarch. Being the last representative of their ancient counts, Giovanna was exceedingly dear to the Provençals, and her court was speedily thronged with all that was noble among them. Nor with such only. The brilliant scene was the resort of all who lived by their wits, and thither, with the rest of their tribe, hied Bertrand and his wife. The latter soon secured a royal hearing, but, to the astonishment of queen, consort, and courtiers, the entertainment opened with an elegy, in

which Andrea of Hungary, the murdered first husband of Giovanna, was credited with every possible virtue. A curious jumble of Christian saints and heathen deities was employed to tear him from the arms of the fond Giovanna—just to prove her patience! And then the same choice band was made to present her with a better husband, in the person of Louis of Taranto, as the meet reward of her angelic resignation. The piece closed with a "joyous epithalamium" on the recent wedding. Then came the reward of the singers. Among other rich gifts, the poetess received "a gown of velvet *cramosie*" from the queen, and the poet a silken mantle from the king. This was for the epithalamium. The singers were then led to the kitchen, where they were heartily fustigated by the master-cook, as a small return for their elegy.

It was not unusual for pairs resembling Bertrand of Pezers and his wife in all respects—except occasionally the trifle, marriage—to wander as troubadours. So rambled those "*comeres*," as they delighted to term themselves, the noble Raymond Ferraud and the equally noble *Alète de Mauleon*, lady of Courbon. Ferraud, the Admirable Crichton of his day, was warrior, mathematician, engineer, musician, and architect as well as poet. After dazzling the court of good King Robert for half a generation, he turned vagabond along with Dame *Alète*, who was one of the presidents of the Court of Love which was held in the Castle of Romani. For several years the lovers led a joyous life, and met with boundless success. At length came the period of cooling blood and evaporating passion—that period to which sensual indulgence contributes nothing but repulsive memories, and which is called Repentance. Both repented bitterly, and took a course not difficult to anticipate. It was not without a touch of poetry. Burning every copy of their amorous songs and retiring to the Gulf of Cannes, the one became a nun in the convent of St. Marguerite, which stood on the more northern of the twin islets of Lerins, and the other became a monk in the monastery of St. Honoret, which stood south of the narrow strait on the other islet. Thus effectually sundered, though almost within earshot, they spent the remainder of their lives.

In the case of Guillem de la Tor, who flourished during the wars of the Sicilian

Vespers, such companionship had another termination. Traversing Lombardy, he visited Milan, where he fell in love with the wife of a barber. The lowly dame proved as frail as the high-born lady of Courbon, and abandoning husband and home, she marched away with the troubadour. All went well for a few months. At Como, however, the barber's wife fell a victim to one of those visitations of pestilence so frequent during the middle ages. Her lover, as infatuated as Raphael with his Fornarina, could not believe in her death. "She is merely feigning the better to obtain an opportunity for abandoning me," he remarked to those around him. The people of Como having buried the body in spite of his resistance, Guillems took post upon the grave. There he remained continually for ten days and as many nights. "Every night," writes an unknown, "he opened the grave and took out the body of his mistress. Keeping it fixedly in view he would spend the hours of darkness beseeching her to speak to him—to say whether she were alive or dead—to return to him if she were living, and if she were indeed dead, to signify what pain she suffered, that he might know how many masses there were to be said, and how much alms there was to be distributed in order to procure her relief. Then, at break of day, he would replace the body in the grave and cover it up. When the singular story was known through the place, the people assembled, and tearing Guillems from the scene of his watch, expelled him from their city. Thenceforth he wandered incessantly over the face of the earth, seeking through many countries for the means of restoring his beautiful mistress to life. At length a mocker pretended to supply him with what he desired so earnestly. "If you recite the psalms, fifty paternosters, and as many aves, and feed seven mendicants every morning for a whole year, without breaking your fast, quenching your thirst, or speaking a word, the woman you love will be restored to you," said the mocker. Guillems followed his advice in every particular, keeping an exact account the while of the progress of time. But when the year was out, and he found that he had been cheated, he died of the disappointment.

Perhaps the most remarkable of these couples was Gaucelen Faudit and Guglielma Monia. The father of the former was a wealthy plebeian of Uzerche, an ancient commune in the department of the Correze.

During the latter portion of his life, the old merchant held the post of Papal agent at Avignon. Nurtured in one of the principal centres of southern song, he was, like countless others of his day, an amateur troubadour. His son inherited his tastes as well as his estates. No sooner did Gaucelen find himself independent, than he abandoned business to frequent the Provençal courts as a *trouver* of the higher order. With all his wealth and ability, our plebeian could not gain admission to the inner and more select portion of the aristocratic circle. He hung about its edge, consorting with the equivocal people who tenanted that uncertain district. Among them he became a gambler, a wine-bibber, a glutton, and a free liver in every sense of the word. Like his knightly compeers, he aspired to become the cavalier-servente of some high-born lady. And being ambitious, he made choice of the reigning beauty of Auvergne and the Limousin, Mary of Ventadour. This lady incited Faudit to take the cross, probably to get rid of him in a quiet way. Accordingly, the young poet wasted the remnant of his fortune in providing men, horses and harness, and sailed for Palestine. He found the East not at all to his liking; and besides, the King of England had just concluded his truce with Saladin. So he hastened to return to France, where he stepped ashore penniless, a circumstance that at once put an end to his aping of chivalry. Being unfit for anything else, he now became a professional jongleur. In that character he took service with Cœur de Lion, whose acquaintance he seems to have formed during his trip to the Levant; and with this monarch he remained until the catastrophe before Chalus. Left without patron, Gaucelen had no alternative but to take to the road, like so many of his brother rhymers. A wretched singer, although a good poet, he had small success at the outset. At length, in a convent at Aix, he met with a damsel of noble birth, Guglielma Monia of Soliers. She was pretty, learned, and sang deliciously. Probably she engaged the *trouver* to teach her to rhyme. Be that as it may, the gay Faudit enticed her from the convent "with his fine words," and thenceforward for many a day she was the companion of his wanderings, rendering his compositions with a grace and spirit that soon raised them to popularity. Faudit did not limit his entertainment to these songs. "He composed

tragedies and comedies," and collecting a company of actors, exhibited his pieces at so much a head. The mention of "tragedies and comedies" at a period so early is rather startling. Crescembini, indeed, after due consideration, pronounces the pieces so named to have been "meer farces, satirical compositions full of laughter, and so to say, having neither head nor tail." But even as such, they must have had a dramatic form. Besides, Nostradamus, who wrote on good authority, mentions Faudit as arranging the scenes, distributing the parts, and performing the other duties of a manager, not forgetting the important one of receiving the money. And further, we know that some of his contemporaries, and at least one of his predecessors, Peter of Vernigo, played similar pieces in precisely the same way. In this instance the "tragedies and comedies" proved very successful, and filled the pockets of the contriver in more ways than one. Besides exhibiting them himself, he sold them to other troubadours "at from two to three thousand livres, and even more apiece." In the course of his wanderings Gaucelen abandoned none of his vices. He seems to have acquired a mastery over the dice-box that rendered it harmless; but he could not prevent his other propensities from having their due effect. The result was that himself—and his wife too, for she followed his example—became "corpulent beyond measure." Wearying of the road, especially as he had accumulated a handsome fortune, Gaucelen settled down at length in the neighborhood of Uzerche to lead the life of a petty châtelain. Here he resumed the ambition of his earlier years to become the chosen knight of some lady of rank. But though he sang, paid court, and—as one of his biographers remarks—"made a perfect ass of himself every morning of his life," he gained not the smallest success. One after another he besieged the hearts of the neighboring dames; and from siege after siege he was repelled with ignominy, in such style, indeed, as to render him the laughing-stock of the country round, and the butt of all the builders of serventes in Provence.

Gaucelen Faudit's method of repairing a shattered fortune was one commonly adopted by gentlemen in difficulties. Hughes of Lobieres, a knight of Tarascon, finding himself penniless, but a thorough master of the art of composing canzon, cobbole, and tenzon, became a wandering

trouver. His birth procured him admission to the highest circles; and his talents—for he was one of the ablest men of the era—did the rest. In a very few years he was enabled, not only to retire, but to assume the state of a great baron. Here he displayed wickedness fully on a par with his ability. He gratified his passions to the utmost, and perpetrated crimes of every hue; and to a great extent with impunity. For he was as skilful in the execution of his misdeeds as he was daring in their conception; being one of those monsters divest of pity, love and fear, which Shakespeare has typified in Richard III. In a few years he became the terror and detestation of every class. At last the country could bear with him no longer, and roused against him in arms as against one of those fearful beasts of which old legends tell. Hughes, however, was not to be taken in the toils. Finding resistance hopeless, and escape impossible, he committed suicide, but so artfully that even this last crime could not be proved. Time, however, has taken full vengeance on Hughes of Lobieres. His songs and his good deeds—if such he ever performed—are consigned to oblivion, and nothing but the memory of his iniquity survives.

More worthy of success were the three brothers, Guy, Eble, and Peter, and their cousin Elias of Uzes. These were kinsmen of knightly race, who found their inheritance too small to afford them a decent maintenance. It happened that while Guy was skilful in composing canzons, and Eble as skilful in composing serventes, Peter was a good musician and Elias an excellent comedian. Putting their heads together they concluded "that it was better to improve their position by uniting their talents and visiting the various courts, than to remain at home to die of hunger." Accordingly they formed a partnership, in which Peter was to do the music and Elias the tumbling, while Guy was to receive the money and divide it equally among them. Starting from Uzes, in the costume of Cercamons, they trudged afoot to the castle of the nearest of the great barons, the Lord of Albisso. The baron was liberal exceedingly to poets, and so were his numerous guests. Consequently, the cousins quitted the castle to continue the campaign, very well mounted and provided. Nor were they less fortunate in other quarters. Being prudent withal they soon amassed a com-

petence, which might have been larger but for one small circumstance. Eble's serventes formed the chief attraction of the troupe. But, unfortunately, their personality—the quality that rendered them so popular with the great body of their hearers—was precisely the quality that rendered them unwelcome to a powerful minority. Finding that remonstrance could not induce the trouters to soften this characteristic, the parties aggrieved appealed to the Papal legate at Avignon. This dignitary lent a ready ear to the complaint, for it was proved, though hardly to his satisfaction, that Guy and his company were accustomed to treat churchmen as they treated laymen, not sparing the legate himself, nor even his superior the Pope. Guy and his kin were by no means the only trouters who indulged their satire to this extent. But it happened that the manager of the troupe was in orders, and, therefore, amenable to ecclesiastical jurisdiction. The legate, therefore, found little difficulty in reducing the trouters of Uzes to submission. He made them promise with an oath, that they would never more make songs against the Pope, or against any other prince, lay or clerical. And this, adds Nostradamus, was the reason that these poets, who were so excellent that I would willingly call them prophets, never afterwards composed, or, at least, published any songs, but returned home with much wealth, thanks to their poetry.

Wandering trouters did not usually make such prudent use of their profits as some of those we have mentioned. Too many of them followed the example of William Magret, concerning whom a biographer, who was not an Irishman, remarked that he wasted every penny he received in gaming and spent the rest in taverns. The said Magret, it is added, was always poor and in tatters, and finished his career in a Spanish hospital. Similar penury was the lot of all the vagabonds at one time or another. Their period of probation was always a period of hardship; and circumstances over which they had no control—as war, pestilence, famine, and the death of patrons—occasionally renewed its miseries. But, sooth to say, their pecuniary difficulties were mostly to be traced to their own follies. These dilemmas afforded an inexhaustible theme of satire to their rivals. For instance, Rambauld de Vaquieras, having published a piece in which he charged the Marquis of

Malespina with no less an offence than highway robbery, the Marquis, after acknowledging the crime—justifying it in the style of Robin Hood—thought it a sufficient retort to remind Rambauld—in very good verse, be it understood—how he had seen him at Pavia, footsore, and actually in want of food. The Monk of Montmajour, too, delights to record how William Adhemar used to strut about in the discarded finery of his noble patrons. Not unfrequently the poet himself took to jesting on the same theme, probably with the view of anticipating and blunting the ridicule of others, as in the following tenzon:—

Said Guy, "Oh, ancient mantle! with thy rusty
musty plush,
Thy stains and general shabbiness, thou hast
put me to the blush;
Thou hast caused me grievous trouble, thou
hast brought me lasting shame,
I would, ere I had worn thee, I had given thee
to the flame!
Of a bewitching lady thou hast lost me all the
grace,
Because of thee, thou wretched rag—I ne'er
shall see her face."

"You despise me," said the mantle; "hast thou
then cast away
All memory of my services on many a bitter
day?
That I am stained and shabby I know, sir, to
my cost,
But came it not from sheltering thee in storm,
and rain, and frost?
I grieve that I have caused thee to be jilted by
yon maid;
Much rather would I wrap you both down there
beneath the shade."

Then Guy unto his bosom his worn old mantle
caught,
Saying, "I thank thee for thy good will, and
for that pretty thought.
No longer of thy wretched plight shalt thou
have cause to grieve;
Nor thy master of his lady love a second time
bereave.
Thy rents shall all be darned, and to cover
every stain,
In crimson of the deepest hue I'll have thee
dyed again."

"Bosh!" said the cloak, as backward upon the
breeze it fluttered,
"With pretty phrases never yet were any pars-
nips buttered!
That story for the horse marines, O master
mine, may do;
I'm used to thy fine promises, and—to their
rupture too.
My rents will ne'er diminish until thy rents
increase;
That is about the Greek calends—so, master,
hold thy peace!"

It must be admitted that when he found himself in a difficulty of the kind mentioned above, the poet generally developed an ingenuity as rapid in its effects and just as decisive as the cap of Fortunatus. A good instance occurs in the story of Peyre de Ruer. Once upon a time this genius conceived a trouver's attachment—a thing more remarkable for intensity than endurance—for a Neapolitan damsel, whose acquaintance he formed in the neighborhood of Aix. This lady knew how to keep him dangling at arm's length until he had spent all his money, and disposed of his horses, baggage, and finery besides. Then she gave him to understand that his attentions were not quite so welcome as they had been. This awakened Peyre, not, indeed, from his dream of love, but to a very lively sense of his situation. He, however, was not a man to despond, even though it was Holy Week, a season in which his particular art was quite at a discount. Borrowing a gown from a tavern acquaintance of the Benedictine order, he betook himself to the nearest fashionable shrine, which he found thronged with devotees. Obtaining an interview with the curé, he gave that worthy to understand he was a monk who held a preaching licence from his superiors. He exhibited a folded paper, which he declared was the said licence, neatly drawn up in Latin. The priest, as he surmised, was blind in his Latin eye—an infirmity co-extensive in those days with deafness in the Latin ear—and, therefore, did not examine it. At sermon-time, then, on Good Friday, Peyre mounted the pulpit "to make a small oration." The novelty of the position, however, abashed him, and he stood for a few minutes, like one of Scott's heroes, unable to muster a single oratorical idea. Feeling that something must be done, and not knowing what else to do, Peyre, "all of a sudden as bold as brass," began to sing a doleful love-song—

Pauc m'an valgut mos prec's ny mos prezies,
Ny jauzimen d'ausel, ny flour d'Eglay,
Ny lou plazer que Dieu transmet en May,

Quand on vey verd lous prats ny lous garryes.
E pauc my val (segon lo qu'yeu vey) aras
Lou dol qu'yeu ay que m'ancy e m'accor;
Ou, qu'yeu fussa reclus subra un, gran tor
Que sufertar tant greus dolors amaras.

From prayer or tear no solace do I glean;
No succor from the joyous May that throngs
The bowers with birds and bloom—with
flowers and songs,
And clothes the garden and the glebe in green.
And little me avails (too well I know)
The pangs that wound my heart or rather
slay—
Oh! that within a dungeon dark I lay
To bear no more this weight of am'rous woe!*

By the time his song was finished, and while the people were yet under the influence of the amazement created by this odd prelude, Peyre had recovered his self-possession. Adroitly using the song as a text, he launched out into a sermon on the subject of the day, "preaching with a vehemence that subdued the whole congregation to tears." Having closed his discourse, he recited the seven penitential psalms reduced to rhyme,† to the great delight of his hearers. Finally, giving them his blessing, he took post at the church door, where, "with downcast eyes and melancholy looks," he besought alms. Nor did he ask in vain, for his hood was filled to overflowing with gold and silver. With a portion of the funds thus obtained, he replaced his equipage. He then returned to the Neapolitan, who received him graciously. And here, with the reader's permission, we take our leave of the whole excellent company of WANDERING TROUBADOURS.

[From *Cornhill Magazine*.]

* It was not uncommon for the more serious preachers of the period to adopt a similar text. Among the Arundel manuscripts in the British Museum there is a Latin sermon, by the celebrated Langton, in which the thing is done. The Cardinal quotes eight lines of a Norman-French love-song, addressed to a certain "la bele Aliz," and applies them to the Virgin.

† Nostradamus is enthusiastic concerning these penitential psalms "reduced to rhyme," than which he thinks there can be nothing finer. He remarks that they were commonly sung by the wandering beggars.

THOUGHTS UPON GOVERNMENT.

CHAPTER IV.

SANITARY AFFAIRS.

HERE is a most legitimate field for Government action. On the principle before laid down, that when there is a matter which greatly concerns the individuals of a State, in which matter those individuals, however well-instructed, energetic, and potent they may be as individuals, cannot possibly arrange the matter well for themselves, the duty lies upon the State to do it for them. Now, this is expressly the case with almost all sanitary improvement. What single individual, or what number of collected individuals, can provide for himself or themselves the requisites for sanitary well-being? Not as regards earth, air, water, or food, can this be done by any individual, unless, indeed, he lives in the country and has no near neighbors; for even in village communities there is almost the same dearth of sanitary arrangements as in great towns. The moment that even a few people are collected together in any spot, there comes the need of a controlling power to keep in due subordination to the sanitary welfare of the little community, the non-sanitary action of each householder entering into the community.

I have always endeavored to illustrate my views on Government by individual instances. I have known a block of buildings, built by a builder upon a height. The drainage and sewerage have been led down the hill, there they have met with the drainage and sewerage from another block of buildings, built by another builder, upon another height. Neither of the builders had any concern with the general outfall for sewerage and drainage; and a more admirable plan for introducing fever into both these blocks of buildings could not well be devised. Is not this a case in which Government interference is needed?

The want of foresight which there has been in all matters connected with sanitary well-being—especially in regard to the growth of great towns—is excessive and amazing. It appears as if there had been more foresight in earlier days than during the last fifty or hundred years. There is an old Act often quoted by me, of which the words of the preamble alone suffice to show the antiquity of the Act.

It begins thus: "*Si homme fait candells dens ung vill;*" and then proceeds to make the necessary regulations for preventing any injury to the health of the neighborhood from candle-making. Queen Elizabeth had some idea of the value of space when she insisted upon cottages not being built without having some land attached to them, and designated those which had not been so built as "*silly cottages.*" Moreover, this Queen and her successor, James the First, were much troubled in their minds by the increase of London in their time.

What a blessing it would have been if some potent persons in earlier days had gained for the Crown, or for the public, the low lands at Lambeth which are now so densely populated, and where there are now factories which are so injurious to the sightliness and to the durability of the great buildings near them. To lessen or remove this great evil would now be a work of exceeding magnitude. For it is to be recollected that not only have the factories to be removed elsewhere, but that homes have to be found for the artisans and laborers who gain their living in connection with these factories.

It is very well to say, in a cynical fashion, "*Posterity can do nothing for us: why should we do anything for posterity?*" But several of us are parents, and perhaps there are few things which should give us more cause for anxiety than the reflection of how our children and grandchildren will be crowded up in great towns if we neglect the opportunities which are still open to us for providing some breathing-room for them. Among the good works which have been done for this metropolis, there are none, perhaps, for which our posterity ought to be more grateful to us than the formation of the Victoria and Battersea Parks, and the Embankment of the Thames, looked at solely as a means of giving more air and space. Our buildings and statues may appear to a future generation very ugly and ungainly, and they may somewhat ungratefully ridicule their ancestors for the want of sense and taste which they may discover in those buildings. But they cannot be otherwise than grateful, if they reflect at all upon the subject, for any spaces which we have left open for them at places which will then

perhaps be situated centrally in the midst of still-increasing population.

This subject of sanitary legislation and administration branches out into many directions, which can only be indicated in this work. For example, it is a great disgrace to a community that it should not have provided places in almost every great town, and especially in sea-board towns, for the reception of persons of the poorer classes entering those towns in a state of infectious disease. The mischief which proceeds from the absence of such receiving places is almost incalculable. The commerce of the world has become so extensive, the number of persons who depend upon that commerce is so large, that it would be in the highest degree hazardous to make more diseases subject to the restraint of quarantine than those which are made so at present. Yet it is an awful thing that a vessel containing persons laboring under the diseases of small-pox, or of typhus, or of scarlet fever should be allowed to land their human foci of disease, and to let them go, without any restraint or supervision, into the most densely populated districts of great towns. No well-governed community would permit such a thing to be done, but would insist upon Lazarettos being provided for the reception of persons laboring under infectious or contagious disease.

Again, while according to the principle of the Roman Law we may admit a certain right in the individual to possess all that is under his land, and all that is above it, we must still desire to restrain, by Government interference, any noxious use that may be made of this extreme right of property. We have therefore, as a nation, undertaken the control of noxious works; but this control has been very imperfectly exercised. Legislation, in this respect, has been of the most piecemeal character. Take, for example, the legislation directed against the Smoke nuisance. It is very limited in its extent; and its operation is not effectual even in the districts to which it is limited. There are suburbs of our great metropolis, thickly populated, and subject to the smoke-nuisance arising from great works or large factories in the neighborhood, to which suburbs the Act does not extend. Again, even in those places to which the Act does extend, it is most carelessly administered, as anyone may perceive who looks from Vauxhall

Bridge or Westminster Bridge, and sees the dense masses of smoke arising from the Surrey side of the river, driven, if the wind is favorable, against the delicately sculptured masonry of the Houses of Lords and Commons. If our legislators will not take care of their own building, and of themselves in this matter, does it not show how much need there is of pressure being put upon them for the welfare of the community, as regards protection from this enormous nuisance? It is a nuisance of the largest extent and influence. It deforms and defaces the finest buildings; it corrodes the greatest works of art; it inflicts the annoyance of frequent painting and renewing of decoration; it checks the growth of vegetation; it injures furniture; and it causes an expense which has been estimated to amount to millions of pounds in the course only of a single year. It is a shameful waste of the precious material to which it owes its existence; it is injurious to health; it depresses the spirits; and, what is worse than all, it gradually makes people contented with, and even unobservant of, a state of dirt and dinginess which is most hurtful to health. Very profound and subtle experiments have of late years been made in this and other countries, which tend to show that disease in its subtlest forms is connected with, or at least finds a *nidus* in, those minute portions of dust and dirt which the good housewife is so perseveringly anxious to remove for the sake of her furniture if not of her children. But the good housewife is gradually checked and disheartened in her endeavors after cleanliness, when her abode is in an atmosphere which increases all her labors tenfold. I always remember the story which came out in evidence before some commission of inquiry, of the poor woman who, coming from the country into some dismal part of London, was observed for some time to make great efforts in cleaning the yard in which she lived; but the hopelessness of the work gradually caused her to relax her endeavors, and she became as indifferent to dirt as her neighbors. Something of this kind occurs to every housewife who lives in an atmosphere which is so perverse and enduring a counter-agent to all her best endeavors.

I would entreat any of my readers who may take an especial interest in this branch of sanitary science, to study the works of

Count Rumford, who has nowhere shown more remarkably his great powers of thought and calculation than in dealing with this subject.

I come now to the adulteration of food. This is one of the most important of sanitary subjects, and one which most loudly calls for the interference of Government. It is also one in which the individual is very little able to protect himself. It is a monstrous evil that a man is not able to buy the exact commodity which he is willing to pay for. It is no answer to him that the adulteration is harmless. But in how few cases is it harmless? And, for the most part, how utterly unable the customer is to detect the adulteration in any substance used for food or drink which is of a composite character. How few of us are chemists! I do not know of a more cruel wrong, or one which the State is more bound to provide against, than when a poor man comes for some liquid which is to assuage his thirst, and drinks, instead of that, a horrible compound, which has the property of increasing instead of assuaging thirst. Similar remarks, though not quite of so dire a nature, may be made as regards the two principal requisites for human food—bread and meat. But I have said enough to show, I think, how desirable it is to have Government inspection and supervision for the principal necessities of human life.

But now to come to the root of the matter. Everybody can see that there is much that requires to be done in sanitary affairs. The question is, how to do it. There are doubtless many innocent persons who believe that when once the attention of the Legislature is seriously devoted to a particular grievance, and legislation takes place in consequence, the grievance is sure to be removed. In short, they have a belief in the virtue of an Act of Parliament, which belief is not by any means partaken by those who have experience in the operation of Acts of Parliament.

One notable deficiency which occurs in many Acts that have already been passed in reference to this subject, is, that no adequate provision is made for the necessary funds, and sometimes even no distinct provision as regards the persons who are to administer the Act.

I here repeat what I have said several times before, that in the word "government" I mean to include those who are, from their

position or their station, naturally the governing people in any neighborhood. Without their aid and co-operation little can be done to remedy the sanitary evils which are so patent to all men's observation. The object, as it seems to me, of any great sanitary measure is, that it should be an enabling Act, and especially that it should be an Act which provides for the constitution of districts in which sanitary action may take place. At present there are hundreds of localities which can hardly be said to be under any local government at all. The outlying suburbs of large towns are places singularly devoid of local government. In a town there is generally some kind of an established local government. In strictly rural neighborhoods there are the local magnates, who, from the possession of land and other causes, have really considerable powers of sanitary action, even without any additional legislation on the subject. But take the suburbs of any great town, of London, for instance, and see how entirely they are bereft of anything like local government.

The inhabitants are in general a very intelligent set of people, but are very frequently upon a level as regards local influence. There is no commanding person amongst them corresponding to the mayor of a town or to the great landholder of a country district. Moreover, these inhabitants of suburbs are, for the most part, either professional or mercantile men, thoroughly absorbed, for the greater part of the day, in their own business or profession. But amongst them there must be many men of governing minds, fully aware, too, of the unsanitary evils to which their district is subjected. I have often heard persons so situated complain of their want of power to remedy any crying nuisance in their neighborhood. Busy men though they are, they would not grudge to give up occasionally some of the time which is left to them after business hours, to attend to local grievances and local improvements. But there is no constitution under which they can act. A general sanitary measure which could be considered to be perfect must not leave any single locality unprovided with some local authority which could take the supervision of sanitary affairs. Here I must say that I think that in any measure claiming to be perfect this local authority should not be mixed up with any other local authority.

I think, for instance, that a vestry or a board of guardians cannot, from its nature, be in all respects a first-rate sanitary board. And not only in this country, but throughout the world, I believe that sanitary matters will never be managed in the best possible way until every district throughout the world has its especial sanitary government. This, of course, is an ideal state of things; but it is often very desirable to see what is the best possible arrangement for providing against any difficulty, and then to come as near it, practically, as the circumstances will admit.

It is to be remembered that in this particular case, that is, in dealing with sanitary difficulties, you have to encounter an almost sleepless enemy, perpetually taking new forms, and varying very much in dif-

ferent localities. Hence it is almost impossible to provide specifically in any general Act of Parliament against all the variety of unsanitary evils which may affect a neighborhood. You must give large general powers to the local authorities; and what the central government should aim at is mainly to give enlightenment and to exercise supervision. But hardly in any case should the central authority degenerate into a body which usurps local authority, or endeavors to do more than to furnish aid and guidance, and occasionally to undertake legislation for particular objects which are brought to its notice by the local authority, and which have hitherto not been provided for.*

[From Macmillan's Magazine.]

LEGENDS OF OLD AMERICA.

IN our present state of geographical knowledge there seems to be some danger lest all the old travellers' stories which amused our youth should perish and be forgotten. Yet there was always something pleasant, and even fascinating, in the fairy tales of travel which had struck the imaginations of our ancestors; and there is still a charm in any evidence which goes to show that Pliny and Polo and the author of *Sindbad's* voyages were not liars, but romantic enthusiasts retailing a poetical and inferior kind of truth about facts which have since become familiar. It is fortunate, therefore, that the industry of bookworms, and perhaps the influences of national vanity, have kept alive some of the histories of discovery (valueless in themselves), which startled or amused our forefathers. Among these are the legends relating to American discoveries with which this sketch is concerned; and we may, perhaps, account for their preservation by the fact that the more modern the history of a nation, or the more meagre it may be in details of ancient greatness, the more eagerness will be shown to collect and elucidate the smallest scraps of legend which can give importance to the memory of older generations. It is proposed, in this essay, to describe very shortly, some of the principal stories about the pre-Columbian America, which in the hands of Danish and American antiquarians have acquired an exag-

gerated importance: their value lying, as it appears, midway between the indifference which they received at first, and the incredulity which afterwards prevailed as to the facts on which undoubtedly they were based.

The existence of a world in the west had of course been suspected long before the discovery of America. We may put aside the legend of the great island Atlantis, which Plato heard from the Egyptian priests, and with which, in later times, were incorporated all the fantastic stories which were brought home by the first travellers among the negro tribes. But one or two of the stories which floated about in old times are curious enough to be still worthy of notice. An ancient German chief was reported to have sent as a choice present to the Consul Metellus certain Indians, who losing their course and being battered up and down with contrary winds were shipwrecked in the North Sea and taken alive. Some commentators will have it

* The foregoing chapter was written before the author was made aware of the sanitary measures introduced and proposed to be introduced by our own Government. The considerations, however, which he has put forward are mostly of a general nature, applying to all governmental action, whether of States or of powerful individuals; and the principles which he advocates are such, he thinks, as must continue to be well borne in mind, to ensure the successful administering of any sanitary legislation that may take place in any country.

that these were some of our own British ancestors so be-painted and disguised with woad as to be mistaken for eastern savages. However this may be, the story reminds us of another, told in modern times by Bembo the Venetian historian, with reference to the then recent discoveries of Columbus. A French ship, sailing in the Narrow Seas, is said to have picked up a canoe built of ozers and bark: in this were seven swarthy men, whose faces were peculiarly broad and tattooed or stained with a violet color; their dress was of fishes' skins and their crowns were woven of reeds and twisted in the shape of ears. "Flesh they eat raw and they drank blood like wine." Six of them soon died, but the survivor is said to have lived for a long time in the retinue of the French king.

How legends of this kind originated it is not easy to say. Some, perhaps, were mere impostures, and others created by the desire of believing in the Fortunate Islands "lying beyond the sunset," like the enchanted land which Irish fishermen have professed to see shining on the horizon west of Arran. Some may have had a real foundation. Many secrets of the sea must have become known to the bold sailors who traded between Carthage and the Tin Islands and Amber Coast. They certainly claimed some knowledge of lands in the Atlantic, which, perhaps, were the Azores, and other discoveries may have been made

When the Phœnician sailors far astray
Had brought uncertain notices away
Of islands dreaming in the Middle Sea.

Their pilots were bold enough to explore the recesses of the ocean without compass or astrolabe, and fanciful writers have depicted the incidents of the possible voyage: "Ils continuaient dans l'Ouest durant quatre lunes sans rencontrer de rivages, mais la proue des navires s'embarassait dans les herbes: des brouillards couleur de sang obscurcissait le soleil, une brise toute chargée de parfums endormait les équipages: et ils ne pouvaient rien dire, tant que leur mémoire était troublée."

Wales was the home of other legends of this kind: and the bards were fond of singing of the famous voyages, which were called the Three Disappearances. The first was the sailing of Merlin and his companions in the Ship of Glass; the second was the voyage of Gavrán the Discoverer, who went in the fifth century

to search the western ocean for the "gwer-donau llión," the Green Islands famous in British songs. The third was the voyage of Prince Madoc, the hero of Southey's somewhat tedious epic. He sailed in the year 1170, and after some time came back with glowing accounts of the new world across the waters, so that many ships were fitted out to accompany his second voyage; they never were heard of again, and this was the "third disappearance." The question regarding the fate of Madoc's crews was once considered important enough to be discussed in councils of state. Queen Elizabeth's ministers are said to have debated whether a title to the Spanish Main might not be rested upon Madoc's occupation of the new world. But the claim was never prosecuted, either from its inherent absurdity, or (to borrow the historian's courtly phrase) "because the queen was not of that kind to put her scythe into another man's harvest."

Many attempts were made in the last century to find the lost Welsh tribe. In 1791 a Dr. Williams published a very learned inquiry into the discovery of America by his countrymen, and about the same time the subject received a full discussion in several numbers of the *Gentleman's Magazine*, the source, as we may suppose, of Southey's inspiration. Some years previously, Mr. Binon, a gentleman of Glamorgan, penetrating to the junction of the Missouri and Mississippi rivers, was fortunate enough, by his own account, to see the lost tribes again. If we might believe the traveller's tale, they recognized their common nationality, and showed him a castle and a church and a roll of sacred books which neither he nor they could read. Soon afterwards the French governor of Canada sent some priests to visit the same Indians, and they returned with no fresh information, but with several of the Welsh Bibles which Mr. Binon had left with his friends. Several other expeditions were sent from Wales, of course without success. In the course of one of these the Missouri valley was thoroughly explored, and the travellers have left an interesting account of the scenery, and of the great river "here winding softly through the plains, and elsewhere forcing its way and running furiously through hills and mountains full of mines."

The Irish claimed the merit of similar discoveries, and as early as the tenth cen-

ture legends were current concerning a "Whitemans-land," or Great Ireland over the Sea. These stories rested upon the vaguest rumors, and would hardly have been worth mentioning if so much importance had not been attached to them in the publications of the Society of Northern Antiquaries. One is amazed to see the precision with which the boundaries of these fabulous regions were laid down in the society's maps. All the lately confederated states are included within these boundaries, the coast-line running from the Potomac to the Rio Grande, the Rocky Mountains forming a substantial western limit. The northern frontier was fixed by the evidence of a very ancient Saga, mentioning the capture by the Norsemen of certain Esquimaux children, who spoke of a country to the south of their own where the people "wore white dresses and carried poles with flags and lappets, shouting loudly as they walked;" and Humboldt himself was half inclined to believe that this story related to the Great Ireland, and afforded an indication of the existence of Christianity in America at that early date. The men in white carrying poles and shouting as they walked were of course taken to represent the Christian priests walking in religious procession. To show the feebleness of the evidence which is considered to be sufficient in matters of this kind, the southern limit of this legendary country was fixed by the Danish antiquarians by reference to the evidence of an old Shawnee Indian who lived somewhere in Florida about a hundred years ago. His name was Black-hoof, which they have lengthened into the Roman majesty of *Black-hoofus Indianus*, and he is said to have heard in his youth that white men had come to Florida many hundreds of years ago: and that is all. Sir Walter Scott translated another story about the Irish colony (in the Eyrbyggja Saga), and several other old books contain allusions to the legend. Importance has been attached to these tales as showing an ancient belief among sailors long before the time of Columbus "that a north-east wind would take a ship from Ireland to another country in the west;" but it may well be doubted whether the least historical importance can be attached to any Saga which does not deal expressly with the acts of well-known chiefs or kings, or with events of real national importance. In composing the

minor romances of Northern Europe, the sole object seems to have been to while away with dramatic fables the long winter nights; and the domestic audience was unlikely to be severe in demanding more than a slight foundation of likelihood or fact.

We have much more precise information as to the visits of the early Greenland colonists to the continent of America. It was indeed doubted at one time whether Old Greenland itself was not a creation of Scandinavian romance. But the actual remains of the colony have been brought to light, and modern discoveries have verified the ancient descriptions of the country, its climate, and products. Besides the foundations and walls of houses, now overgrown with dwarf willows and scurvy-grass, large churches and portions of graveyards have been found in the situations mentioned in the ancient Icelandic records. In one plain, once a meadow, but now overgrown with dandelions and juniper-brush, many fragments of coarse bell-metal, parts of church-bells, were picked up by the natives and hoarded as specimens of gold. Runic inscriptions have been found as far north as the Woman Islands in lat. $72^{\circ} 55'$, and the most recent expeditions have confirmed the existence of all the natural landmarks mentioned by the chroniclers. Their "veins of gold" are shown to be deposits of iron pyrites: the warm winds in winter, which seemed so marvellous to the ancient colonists, have been described by Sir L. M'Clintock, and the hot springs of Onartok confirm the old Norsemen's account of the boiling fountains at which the monks in Greenland cooked their food. Greenland was colonized at the end of the tenth century, and the settlement prospered for four hundred years. After the devastations of the Black Death the settlers had to recede gradually before the advance of the Esquimaux or "Skrœlings," and a valuable account of the state of the country just before the time when intercourse with Europe ceased, is to be found in *Purchas' Pilgrims*. Ivor Bardson, high steward to the bishop, was sent to the northern parts of the colony to drive back the Esquimaux. "There," he wrote, "is still standing a church where formerly our bishop dwelt: but now the wild Skrœlings have all that land, and there are many cattle but no people, Christian or heathen, but all have been carried off

by the enemy the Skroelings." That is the last which was heard of the doomed colony, and no one knows the fate of the last handfuls of settlers. Danish writers have been fond of imagining the migrations of their countrymen to the icebound recesses of the east coast of Greenland, where they are supposed to remain "carrying on a perpetual war with the savages in revenge for the ruin of their ancestors." But this is a mere fancy which has been gradually disproved, and except in the books of the antiquarians and the vague rumors of the seas, the memory of Old Greenland has long since passed away.

To the first settlers in Greenland is ascribed the honor of having colonized the American continent. Their adventures are detailed in eight long chapters of an old Icelandic Saga, and have formed the subject of many learned books in modern times, of which the most remarkable is the *Antiquitates Americane*, a sumptuous folio published by Professor Rafn for the Society of Northern Antiquaries. The story may be very shortly summarised. In the voyage to Greenland a ship's crew had noticed land to the south-west, which some of the colonists determined to explore. Starting from Baffin's Bay, they soon came to an island bare of all vegetation, "and there were great snow mountains up the country, but all between them and the shore was a flat field of snow, and it seemed a worthless place." This they named Helluland or Flat Country, and little interest would ever have been excited by the discovery if the modern *savants* had not chosen to include in its boundaries, all that is now Labrador and Newfoundland; and this seems the more absurd when we consider that the Labrador coast includes the grassy slopes of Hamilton Inlet and the larch-covered hills of Sandwich Bay, which bloom like a garden in the summer months.

The voyagers (to return to the ancient story) sailed on for three days and arrived at a flat well-wooded coast, which they named Markland: "the shore for a great distance was formed of a white sand, sloping gently from the sea." This country has been identified with the whole of Nova Scotia, in order that the Norsemen may have the credit of having seen as much of America as possible in the time of their visit. Then sailing south-west for two days with a fair wind, they are said to

have reached a coast trending east and west, and passing between an island and a projecting headland to have run up a river with great shoals at its mouth. "They towed the ship up the river and into a lake, where they anchored, and set up their tents on the land. They resolved to winter there, and built a great house. There was plenty of salmon in the river and in the lake, larger than any which they had seen before. This country appeared so good to them that they thought it needless to gather food for the cattle in the winter; and during the winter there was no frost, and the grass was hardly withered." One day a German, who was of their crew, found grapes growing wild in the woods, which caused the new country to be named Vineland the Fair. "And it is said that, when they returned, their boat was filled with grapes, and they cut a cargo of wood for their ship; there was also self-sown wheat in the plains, and a tree which they called *Massur* (supposed to be the maple): of all these they took samples, and some of the trees were so large as to be used in building houses." These latter words point rather to the small larch and spruce of Labrador, than to the Canadian forests; but some parts of the description appear to agree with the account given by the early settlers of the shores of the St. Lawrence. "The river (says a traveller of the sixteenth century) has many little islands and is amazingly full of fish: the country pleasant and indifferently fertile, especially to the south-west, where upwards from the river the ground rises into little hills, invested most of them with vines, with which the country abounds; and in the plains it is very fruitful of corn and all kinds of grain."

Without attempting to account for all the fanciful details of the Icelandic story, which was apparently written in its present shape about four hundred years after the event, we may confess that there is some ground for the belief that the grapes and corn were actually seen by the Greenland sailors. Snorro Sturleson, the great historian, speaks of a very ancient tradition that a mission was sent about the year 1006 to introduce Christianity into the new settlement in Greenland, and that the missionaries' ship was driven from her course to a new land in the south. "Leif went to Greenland in the summer; in the sea he saved a crew clinging to a wreck;

he also found Vineland the Fair, and arrived about harvest-time in Greenland with the priest and the teachers;" and there is a piece of remarkable evidence that goes far to prove the truth of the main point in the story. Adam of Bremen, who wrote in the eleventh century a work upon the geography of the north, cited the personal statement of Sweyn the Second, King of Denmark, that certain of his sailors had found a land in the west where self-sown vines and corn had been found growing in perfection. And from these short notices of the traditionary fact, it is very possible that the later stories with their fanciful and minute details were afterwards elaborated. It is not necessary to examine these details minutely, unless we approach their study with the faith or credulity of a great professor, who tells us that "the party sent out in the year 1006 to explore the southern coast probably examined the shores of Connecticut, New York, Delaware, and Maryland; and their account of these coasts is quite correct."

There is a later manuscript which differs in many points from the story before mentioned. It is full of the most marvellous impossibilities, but its authority has been placed very high by several Danish and American writers. Its truth has been sustained by the discovery of Norse remains in America, which are found in sufficient quantities to supply the archæological demand. Mr. Longfellow immortalized in one of his ballads the windmill on Rhode Island, which the Danes have claimed as a round tower built by some of the Greenland wanderers. The story of the tower and of "the Viking bold" is, as he says, sufficiently well established for the purposes of a ballad, "though doubtless many an honest citizen, who has passed his days within sight of the round tower, will exclaim with Sancho, 'God bless me! did I not warn you to have a care, for that it was nothing but a windmill, and nobody could mistake it who had not the like in his head.'" Besides the mill, there was found a stone in the Taunton river on which the fragment of a Runic inscription was imagined to have been discovered, concerning which some passable jokes may be read in the Biglow Papers. The crew, whose adventures are recorded in the later Saga, are said to have sailed from Greenland to the sandy shores previously discovered, and there to have sent a Scotch

man and woman, "fleeter than wild beasts," to explore the inland parts, who returned in three days with grapes and an ear of wheat. Then they found an island covered with nesting eider-ducks, which some will have to be *Egg Island* near Newport. Here they passed the winter, some of the crew parting company in disgust "at not having tasted a drop of wine," and being eventually wrecked on the coast of Ireland. The others went on exploring to the southward till they arrived at the river and lake which the first body of settlers had discovered, and here they saw the vines and fields of corn, but were driven away by Esquimaux, who attacked them with a fleet of skin canoes. On their northward journey they met a Uniped, or One-foot-man, "of glittering appearance," who shot a Greenland captain and ran away across the sea. Avoiding the region of the One-foot-men, they proceeded north; but by a sudden turn of the legend we find them passing a third winter upon the Island of Eggs, where Snorro Thorfinnson was born, who has been claimed as an ancestor by the sculptor Thorwaldsen, Professor Finn Magnussen, and other distinguished persons. To make the story short, the wanderers sailed home from Vineland the Fair with some Esquimaux children whom they had captured. From these children they learned of the Esquimaux kings Avaldamon and Valdida, and of tribes who lived in holes underground, like the Walrusian families whom Mr. Whympster some time since described; and the same children are the authority for the processions of chaunting priests in the Great Ireland, in which, as we have said, Humboldt was inclined to believe.

However absurd it may seem to discuss the details of this story, there is not a rock or a bay mentioned in it which has not been identified by learned enthusiasts, and it is a remarkable thing that even the most trivial names of places mentioned in the Saga are found to have remained in use unaltered to the present day. Here (we are gravely told) is Egg Island; here is Whale Rock; and near it is Martha's Vineyard, where the original grapes were found. On the authority of these stories, which, as we have seen, have in all probability a small foundation of fact, an attempt has several times been made to deprive Columbus of the honor of his discoveries.

His journal mentions a visit which he made in 1477 "to Thule or Friesland, a country with which the Bristol merchants had a thriving trade." This entry probably refers to the Faroe Islands, where the tide in one or two places reaches a surprising height, which is noticed by Columbus in his account of this "Friesland," which is a name that was given to these islands by several early writers. But it has been insisted that the Thule of Columbus must be Iceland: and if so, it is said that he may have been entertained by a certain bishop who is thought to have had in his possession the ancient manuscripts of which we have given some account. The inference is, of course, that he learned the existence of America from the bishop, and artfully concealed the fact. But even if he did visit Iceland, we should remember that the natives at that time had almost forgotten the existence even of their colony in Greenland, and that it was not until long after the death of Columbus that any importance was attached to these dim traditions. Besides, Columbus was looking for a western route to India, and was not likely to search for the grapes and wheat, the white furs and Esquimaux tribes, of Vineland the Fair.

There are other legends relating to early

discoveries of America which it is not now worth while to detail. The travels of Nicolo Zeno the Venetian, in which the marvels of Cuba and Mexico are mixed up with descriptions of Greenland and the Faroe Islands (and apparently of Scotland), would be curious if they had not been published half a century after the voyages of Columbus. The American portions of Zeno's voyage are probably nothing more than a clumsy interpolation into a genuine narrative of an Italian merchant's travels.

It has been a favorite amusement with one class of antiquarians to speculate upon finding the descendants of the Norsemen or other ancient settlers upon the American seaboard. Charlevoix and other more recent travellers have described a fair-skinned tribe of Indians in Labrador whom the other Indians called "Manooli Conde," or white men. These men have been held to be the descendants of the Icelandic colonists, "who, for want of ships, or perhaps of their own choice, have forgotten their native land." Other learned writers will have these Indians to be Welsh, or Faroese, or Irishmen, according to the faith which each is disposed to give to one or other of the legends of Old America.

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ON THE AIMS AND INSTRUMENTS OF SCIENTIFIC THOUGHT.*

BY PROFESSOR W. K. CLIFFORD,

It may have occurred (and very naturally too), to such as have had the curiosity to read the title of this lecture, that it must necessarily be a very dry and difficult subject; interesting to very few, intelligible to still fewer, and, above all, utterly incapable of adequate treatment within the limits of a discourse like this. It is quite true that a complete setting-forth of my subject would require a comprehensive treatise on logic, with incidental discussion of the main questions of metaphysics; that it would deal with ideas demanding close study for their apprehension, and investigations requiring a peculiar taste to relish them. It is not my intention now to present you with such a treatise.

The British Association, like the world in general, contains three classes of persons. In the first place, it contains scientific thinkers; that is to say, persons whose thoughts have very frequently the characters which I shall presently describe. Secondly, it contains persons who are engaged in work upon what are called scientific subjects, but who in general do not, and are not expected to, think about these subjects in a scientific manner. Lastly, it contains persons who suppose that their work and their thoughts are unscientific, but who would like to know something about the business of the other two classes aforesaid. Now, to any one who belonging to one of these classes considers either of the other two, it will be apparent that there is a certain gulf between him and them; that he does not quite understand them, nor they him; and that an opportunity

* A Lecture delivered before the members of the British Association, at Brighton, on August 19, 1872.

for sympathy and comradeship is lost through this want of understanding. It is this gulf that I desire to bridge over, to the best of my power. That the scientific thinker may consider his business in relation to the great life of mankind; that the noble army of practical workers may recognize their fellowship with the outer world, and the spirit which must guide both; that this so-called outer world may see in the work of science only the putting in evidence of all that is excellent in its own work,—may feel that the kingdom of science is within it: these are the objects of the present discourse. And they compel me to choose such portions of my vast subject as shall be intelligible to all, while they ought at least to command an interest universal, personal, and profound.

In the first place, then, what is meant by scientific thought? You may have heard some of it expressed in the various Sections this morning. You have probably also heard expressed in the same places a great deal of unscientific thought; notwithstanding that it was about mechanical energy, or about hydrocarbons, or about eocene deposits, or about malacopterygii. For scientific thought does not mean thought about scientific subjects with long names. There are no scientific subjects. The subject of science is the human universe; that is to say, everything that is, or has been, or may be related to man. Let us, then, taking several topics in succession, endeavor to make out in what cases thought about them is scientific, and in what cases not.

Ancient astronomers observed that the relative motions of the sun and moon recurred all over again in the same order about every nineteen years. They were thus enabled to predict the time at which eclipses would take place. A calculator at one of our observatories can do a great deal more than this. Like them, he makes use of past experience to predict the future; but he knows of a great number of other cycles besides that one of the nineteen years, and takes account of all of them; and he can tell about the solar eclipse of six years hence exactly where it will be visible, and how much of the sun's surface will be covered at each place, and, to a second, at what time of day it will begin and finish there. This prediction involves technical skill of the highest order; but it does

not involve scientific thought, as any astronomer will tell you.

By such calculations the places of the planet Uranus at different times of the year had been predicted and set down. The predictions were not fulfilled. Then arose Adams, and from these errors in the prediction he calculated the place of an entirely new planet, that had never yet been suspected; and you all know how the new planet was actually found in that place. Now this prediction does involve scientific thought, as any one who has studied it will tell you.

Here then are two cases of thought about the same subject, both predicting events by the application of previous experience, yet we say one is *technical* and the other *scientific*.

Now let us take an example from the building of bridges and roofs. When an opening is to be spanned over by a material construction, which must bear a certain weight without bending enough to injure itself, there are two forms in which this construction can be made, the arch and the chain. Every part of an arch is compressed or pushed by the other parts; every part of a chain is in a state of tension, or is pulled by the other parts. In many cases these forms are united. A girder consists of two main pieces or booms, of which the upper one acts as an arch and is compressed, while the lower one acts as a chain and is pulled; and this is true even when both the pieces are quite straight. They are enabled to act in this way by being tied together, or braced, as it is called, by cross pieces, which you must often have seen. Now suppose that any good practical engineer makes a bridge or roof upon some approved pattern which has been made before. He designs the size and shape of it to suit the opening which has to be spanned; selects his material according to the locality; assigns the strength which must be given to the several parts of the structure according to the load which it will have to bear. There is a great deal of thought in the making of this design, whose success is predicted by the application of previous experience; it requires technical skill of a very high order; but it is not scientific thought. On the other hand, Mr. Fleeming Jenkin* designs a roof

* "On Braced Arches and Suspension Bridges." Edinburgh: Neill 1870.

consisting of two arches braced together, instead of an arch and a chain braced together; and although this form is quite different from any known structure, yet before it is built he assigns with accuracy the amount of material that must be put into every part of the structure in order to make it bear the required load, and this prediction may be trusted with perfect security. What is the natural comment on this? Why, that Mr. Fleeming Jenkin is a scientific engineer.

Now it seems to me that the difference between scientific and merely technical thought, not only in these but in all other instances which I have considered, is just this: Both of them make use of experience to direct human action; but while technical thought or skill enables a man to deal with the same circumstances that he has met with before, scientific thought enables him to deal with different circumstances that he has never met with before. But how can experience of one thing enable us to deal with another quite different thing? To answer this question we shall have to consider more closely the nature of scientific thought.

Let us take another example. You know that if you make a dot on a piece of paper, and then hold a piece of Iceland spar over it, you will see not one dot but two. A mineralogist, by measuring the angles of a crystal, can tell you whether or no it possesses this property without looking through it. He requires no scientific thought to do that. But Sir William Rowan Hamilton, the late Astronomer Royal of Ireland, knowing these facts and also the explanation of them which Fresnel had given, thought about the subject, and he predicted that by looking through certain crystals in a particular direction we should see not two dots but a continuous circle. Mr. Lloyd made the experiment, and saw the circle, a result which had never been even suspected. This has always been considered one of the most signal instances of scientific thought in the domain of physics. It is most distinctly an application of experience gained under certain circumstances to entirely different circumstances.

Now suppose that the night before coming down to Brighton you had dreamed of a railway accident caused by the engine getting frightened at a flock of sheep and jumping suddenly back over all the carriages; the result of which was that

your head was unfortunately cut off, so that you had to put it in your hat-box and take it back home to be mended. There are, I fear, many persons even at this day who would tell you that after such a dream it was unwise to travel by railway to Brighton. This is a proposal that you should take experience gained while you are asleep, when you have no common sense,—experience about a phantom railway, and apply it to guide you when you are awake and have common sense, in your dealings with a real railway. And yet this proposal is not dictated by scientific thought.

Now let us take the great example of Biology. I pass over the process of classification, which itself requires a great deal of scientific thought; in particular when a naturalist who has studied and monographed a fauna or a flora rather than a family, is able at once to pick out the distinguishing characters required for the subdivision of an order quite new to him. Suppose that we possess all this minute and comprehensive knowledge of plants and animals and intermediate organisms, their affinities and differences, their structures and functions;—a vast body of experience, collected by incalculable labor and devotion. Then comes Mr. Herbert Spencer: he takes that experience of life which is not human, which is apparently stationary, going on in exactly the same way from year to year, and he applies that to tell us how to deal with the changing characters of human nature and human society. How is it that experience of this sort, vast as it is, can guide us in a matter so different from itself? How does scientific thought, applied to the development of a kangaroo foetus or the movement of the sap in exogens, make prediction possible for the first time in that most important of all sciences, the relations of man with man?

In the dark or unscientific ages men had another way of applying experience to altered circumstances. They believed, for example, that the plant called Jew's ear, which does bear a certain resemblance to the human ear, was a useful cure for diseases of that organ. This doctrine of "signatures," as it was called, exercised an enormous influence on the medicine of the time. I need hardly tell you that it is hopelessly unscientific; yet it agrees with those other examples that we have been

considering in this particular; that it applies experience about the shape of a plant—which is one circumstance connected with it—to dealings with its medicinal properties, which are other and different circumstances. Again, suppose that you had been frightened by a thunderstorm on land, or your heart had failed you in a storm at sea; if anyone then told you that in consequence of this you should always cultivate an unpleasant sensations in the pit of your stomach, till you took delight in it, that you should regulate your sane and sober life by the sensations of a moment of unreasoning terror: this advice would not be an example of scientific thought. Yet it would be an application of past experience to new and different circumstances.

But you will already have observed what is the additional clause that we must add to our definition in order to describe scientific thought and that only. The step between experience about animals and dealings with changing humanity is the law of evolution. The step from errors in the calculated places of Uranus to the existence of Neptune is the law of gravitation. The step from the observed behavior of crystals to conical refraction is made up of laws of light and geometry. The step from old bridges to new ones is the laws of elasticity and the strength of materials.

The step, then, from past experience to new circumstances, must be made in accordance with an observed uniformity in the order of events. This uniformity has held good in the past in certain places; if it should also hold good in the future and in other places, then, being combined with our experience of the past, it enables us to predict the future, and to know what is going on elsewhere; so that we are able to regulate our conduct in accordance with this knowledge.

The aim of scientific thought, then, is to apply past experience to new circumstances: the instrument is an observed uniformity in the course of events. By the use of this instrument it gives us information transcending our experience, it enables us to infer things that we have not seen from things that we have seen; and the evidence for the truth of that information depends on our supposing that the uniformity holds good beyond our experience. I now want to consider this uniformity a little more closely; to show how

the character of scientific thought and the force of its inferences depend upon the character of the uniformity of Nature. I cannot of course tell you all that is known of this character without writing an encyclopædia; but I shall confine myself to two points of it about which it seems to me that just now there is something to be said. I want to find out what we mean when we say that the uniformity of Nature is *exact*; and what we mean when we say that it is *reasonable*.

When a student is first introduced to those sciences which have come under the dominion of mathematics, a new and wonderful aspect of Nature bursts upon his view. He has been accustomed to regard things as essentially more or less vague. All the facts that he has hitherto known have been expressed qualitatively, with a little allowance for error on either side. Things which are let go fall to the ground. A very observant man may know also that they fall faster as they go along. But our student is shown that, after falling for one second in a vacuum, a body is going at the rate of thirty-two feet per second, that after falling for two seconds it is going twice as fast, after going two and a half seconds two and a half times as fast. If he makes the experiment, and finds a single inch per second too much or too little in the rate, one of two things must have happened; either the law of falling bodies has been wrongly stated, or the experiment is not accurate—there is some mistake. He finds reason to think that the latter is always the case: the more carefully he goes to work, the more of the error turns out to belong to the experiment. Again, he may know that water consists of two gases, oxygen and hydrogen, combined; but he now learns that two pints of steam at a temperature of 150° Centigrade will always make two pints of hydrogen and one pint of oxygen at the same temperature, all of them being pressed as much as the atmosphere is pressed. If he makes the experiment and gets rather more or less than a pint of oxygen, is the law disproved? No; the steam was impure, or there was some mistake. Myriads of analyses attest the law of combining volumes; the more carefully they are made, the more nearly they coincide with it. The aspects of the faces of a crystal are connected together by a geometrical law, by which, four of them being given, the

rest can be found. The place of a planet at a given time is calculated by the law of gravitation: if it is half a second wrong, the fault is in the instrument, the observer, the clock, or the law; now, the more observations are made, the more of this fault is brought home to the instrument, the observer, and the clock. It is no wonder, then, that our student, contemplating these and many like instances, should be led to say, "I have been short-sighted: but I have now put on the spectacles of science which Nature had prepared for my eyes; I see that things have definite outlines, that the world is ruled by exact and rigid mathematical laws; *καὶ οὐ, θεός, γεωμετρής.*" It is our business to consider whether he is right in so concluding. Is the uniformity of Nature absolutely exact, or only more exact than our experiments?

At this point we have to make a very important distinction. There are two ways in which a law may be inaccurate. The first way is exemplified by that law of Galileo which I mentioned just now: that a body falling *in vacuo* acquires equal increase in velocity in equal times. No matter how many feet per second it is going, after an interval of a second it will be going thirty-two *more* feet per second. We now know that this rate of increase is not exactly the same at different heights, that it depends upon the distance of the body from the centre of the earth; so that the law is only approximate; instead of the increase of velocity being exactly *equal* in equal times, it itself increases very slowly as the body falls. We know also that this variation of the law from the truth is *too small to be perceived* by direct observation on the change of velocity. But suppose we have invented means for observing this, and have verified that the increase of velocity is inversely as the squared distance from the earth's centre. Still the law is not accurate; for the earth does not attract accurately towards her centre, and the direction of attraction is continually varying with the motion of the sea; the body will not even fall in a straight line. The sun and the planets, too, especially the moon, will produce deviations; yet the sum of all these errors will escape our new process of observation, by being a great deal smaller than the necessary errors of that observation. But when these again have been allowed for,

there is still the influence of the stars. In this case, however, we only give up one exact law for another. It may still be held that if the effect of every particle of matter in the universe on the falling body were calculated according to the law of gravitation, the body would move exactly as this calculation required. And if it were objected that the body must be slightly magnetic or diamagnetic, while there are magnets not an infinite way off, that a very minute repulsion, even at sensible distances, accompanies the attraction; it might be replied that these phenomena are themselves subject to exact laws, and that when *all* the laws have been taken into account, the actual motion will exactly correspond with the calculated motion.

I suppose there is hardly a physical student (unless he has specially considered the matter) who would not at once assent to the statement I have just made; that if we knew all about it, Nature would be found universally subject to exact numerical laws. But let us just consider for another moment what this means.

The word "exact" has a practical and a theoretical meaning. When a grocer weighs you out a certain quantity of sugar very carefully, and says it is exactly a pound, he means that the difference between the mass of the sugar and that of the pound weight he employs is too small to be detected by his scales. If a chemist had made a special investigation, wishing to be as accurate as he could, and told you this was exactly a pound of sugar, he would mean that the mass of the sugar differed from that of a certain standard piece of platinum by a quantity too small to be detected by *his* means of weighing, which are a thousandfold more accurate than the grocer's. But what would a mathematician mean, if he made the same statement? He would mean this. Suppose the mass of the standard pound to be represented by a length, say a foot, measured on a certain line; so that half a pound would be represented by six inches, and so on. And let the difference between the mass of the sugar and that of the standard pound be drawn upon the same line to the same scale. Then, if that difference were magnified an infinite number of times, it would still be invisible. This is the theoretical meaning of exactness; the practical meaning is only very close approximation; *how* close, depends upon the circum-

stances. The knowledge then of an exact law in the theoretical sense would be equivalent to an infinite observation. I do not say that such knowledge is impossible to man; but I do say that it would be absolutely different in kind from any knowledge that we possess at present.

I shall be told, no doubt, that we do possess a great deal of knowledge of this kind, in the form of geometry and mechanics; and that it is just the example of these sciences that has led men to look for exactness in other quarters. If this had been said to me in the last century, I should not have known what to reply. But it happens that about the beginning of the present century the foundations of geometry were criticised independently by two mathematicians, Lobatschewsky* and the immortal Gauss;† whose results have been extended and generalized more recently by Riemann‡ and Helmholtz.§ And the conclusion to which these investigations lead is that, although the assumptions which were very properly made by the ancient geometers are practically exact—that is to say, more exact than experiment can be—for such finite things as we have to deal with, and such portions of space as we can reach; yet the truth of them for very much larger things, or very much smaller things, or parts of space which are at present beyond our reach, is a matter to be decided by experiment, when its powers are considerably increased. I want to make as clear as possible the real state of this question at present, because it is often supposed to be a question of words or metaphysics, whereas it is a very distinct and simple question of fact. I am supposed to know then that the three angles of a rectilinear triangle are exactly equal to two right angles. Now suppose that three points are taken in space, distant from one another as far as the Sun is from α Centauri, and that the shortest distances between these points are drawn so as to form a triangle. And suppose the

angles of this triangle to be very accurately measured and added together; this can at present be done so accurately that the error shall certainly be less than one minute, less therefore than the five-thousandth part of a right angle. Then I do not know that this sum would differ at all from two right angles; but also I do not know that the difference would be less than ten degrees, or the ninth part of a right angle.* And I have reasons for not knowing.

This example is exceedingly important as showing the connection between exactness and universality. It is found that the deviation if it exists must be nearly proportional to the area of the triangle. So that the error in the case of a triangle whose sides are a mile long would be obtained by dividing that in the case I have just been considering by four hundred quadrillions; the result must be a quantity inconceivably small, which no experiment could detect. But between this inconceivably small error and no error at all, there is fixed an enormous gulf; the gulf between practical and theoretical exactness, and what is even more important, the gulf between what is practically universal and what is theoretically universal. I say that a law is practically universal which is more exact than experiment for all cases that might be got at by such experiment as we have. We assume this kind of universality, and we find that it pays us to assume it. But a law would be theoretically universal if it were true of all cases whatever; and this is what we do not know of any law at all.

I said there were two ways in which a law might be inexact. There is a law of gases which asserts that when you compress a perfect gas the pressure of the gas increases exactly in the proportion in which the volume diminishes. Exactly; that is to say, the law is more accurate than the experiment, and experiments are corrected by means of the law. But it so happens that this law has been explained; we know precisely what it is that happens when a gas is compressed. We know that a gas consists of a vast number of separate molecules, rushing about in all directions with all manner of velocities, but so that

* *Geometrische Untersuchungen zur Theorie der Parallellinien*. Berlin, 1840. Translated by Hoüel. Gauthier-Villars, 1866.

† Letter to Schumacher, Nov. 28, 1846 (refers to 1792).

‡ *Ueber die Hypothesen welche der Geometrie zu Grunde liegen*, Göttingen Abhandl., 1866-7. Translated by Hoüel in *Annali di Matematica*, Milan, vol. iii.

§ *The Axioms of Geometry*, Academy, vol. i, p. 123 (a popular exposition).

* Assuming that parallax observations prove the deviation less than half a second for a triangle whose vertex is at the star and base a diameter of the earth's orbit.

the mean velocity of the molecules of air in this room, for example, is about twenty miles a minute. The pressure of the gas on any surface with which it is in contact is nothing more than the impact of these small particles upon it. On any surface large enough to be seen there are millions of these impacts in a second. If the space in which the gas is confined be diminished, the average rate at which the impacts take place will be increased in the same proportion; and because of the enormous number of them, the actual rate is always exceedingly close to the average. But the law is one of statistics; its accuracy depends on the enormous numbers involved; and so, from the nature of the case, its exactness cannot be theoretical or absolute.

Nearly all the laws of gases have received these statistical explanations; electric and magnetic attraction and repulsion have been treated in a similar manner; and a hypothesis of this sort has been suggested even for the law of gravity. On the other hand, the manner in which the molecules of a gas interfere with each other proves that they repel one another inversely as the fifth power of the distance; so that we here find at the basis of a statistical explanation a law which has the form of theoretical exactness. Which of these forms is to win? It seems to me again that we do not know, and that the recognition of our ignorance is the surest way to get rid of it.

The world in general has made just the remark that I have attributed to a fresh student of the applied sciences. As the discoveries of Galileo, Kepler, Newton, Dalton, Cavendish, Gauss, displayed ever new phenomena following mathematical laws, the theoretical exactness of the physical universe was taken for granted. Now, when people are hopelessly ignorant of a thing, they quarrel about the source of their knowledge. Accordingly many maintained that we know these exact laws by intuition. These said always one true thing, that we did not know them from experience. Others said that they were really given in the facts, and adopted ingenious ways of hiding the gulf between the two. Others again deduced from transcendental considerations sometimes the laws themselves, and sometimes what through imperfect information they supposed to be the laws. But more seri-

ous consequences arose when these conceptions derived from Physics were carried over into the field of Biology. Sharp lines of division were made between kingdoms and classes and orders; an animal was described as a miracle to the vegetable world; specific differences which are practically permanent within the range of history, were regarded as permanent through all time; a sharp line was drawn between organic and inorganic matter. Further investigation, however, has shown that accuracy had been prematurely attributed to the science, and has filled up all the gulfs and gaps that hasty observers had invented. The animal and vegetable kingdoms have a debateable ground between them, occupied by beings that have the characters of both and yet belong distinctly to neither. Classes and orders shade into one another all along their common boundary. Specific differences turn out to be the work of time. The line dividing organic matter from inorganic, if drawn to-day, must be moved to-morrow to another place; and the chemist will tell you that the distinction has now no place in his science except in a technical sense for the convenience of studying carbon compounds by themselves. In Geology the same tendency gave birth to the doctrine of distinct periods, marked out by the character of the strata deposited in them all over the sea; a doctrine than which, perhaps, no ancient cosmogony has been further from the truth, or done more harm to the progress of science. Refuted many years ago by Mr. Herbert Spencer,* it has now fairly yielded to an attack from all sides at once, and may be left in peace.

When then we say that the uniformity which we observe in the course of events is exact and universal, we mean no more than this; that we are able to state general rules which are far more exact than direct experiment, and which apply to all cases that we are at present likely to come across. It is important to notice, however, the effect of such exactness as we observe upon the nature of inference. When a telegram arrived stating that Dr. Livingstone had been found by Mr. Stanley, what was the process by which you inferred the finding of Mr. Livingstone from

* "Illogical Geology," in *Essays*, vol. i. Originally published in 1859.

the appearance of the telegram? You assumed over and over again the existence of uniformity in nature. That the newspapers had behaved as they generally do in regard to telegraphic messages; that the clerks had followed the known laws of the action of clerks; that electricity had behaved in the cable exactly as it behaves in the laboratory; that the actions of Mr. Stanley were related to his motives by the same uniformities that affect the actions of other men; that Dr. Livingstone's handwriting conformed to the curious rule by which an ordinary man's handwriting may be recognized as having persistent characteristics even at different periods of his life. But you had a right to be much more sure about some of these inferences than about others. The law of electricity was known with practical exactness, and the conclusions derived from it were the surest things of all—the law about the handwriting, belonging to a portion of physiology which is unconnected with consciousness, was known with less, but still with considerable accuracy. But the laws of human action in which consciousness is concerned are still so far from being completely analyzed and reduced to an exact form, that the inferences which you made by their help were felt to have only a provisional force. It is possible that by and by, when psychology has made enormous advances and become an exact science, we may be able to give testimony the sort of weight which we give to the inferences of physical science. It will then be possible to conceive a case which will show how completely the whole process of inference depends on our assumption of uniformity. Suppose that testimony, having reached the ideal force I have imagined, were to assert that a certain river runs up hill. You could infer nothing at all. The arm of inference would be paralysed, and the sword of truth broken in its grasp; and reason could only sit down and wait until recovery restored her limb, and further experience gave her new weapons.

I want in the next place to consider what we mean when we say that the uniformity which we have observed in the course of events is *reasonable* as well as exact.

No doubt the first form of this idea was suggested by the marvellous adaptation of certain natural structures to special functions. The first impression of those who

studied comparative anatomy was that every part of the animal frame was fitted with extraordinary completeness for the work that it had to do. I say extraordinary, because at the time the most familiar examples of this adaptation were manufactures produced by human ingenuity; and the completeness and minuteness of natural adaptations were seen to be far in advance of these. The mechanism of limbs and joints was seen to be adapted, far better than any existing ironwork, to those motions and combinations of motion which were most useful to the particular organism. The beautiful and complicated apparatus of sensation caught up indications from the surrounding medium, sorted them, analysed them, and transmitted the results to the brain in a manner with which, at the time I am speaking of, no artificial contrivance could compete. Hence the belief grew amongst physiologists that every structure which they found must have its function and subserve some useful purpose; a belief which was not without its foundation in fact, and which certainly (as Dr. Whewell remarks) has done admirable service in promoting the growth of physiology. Like all beliefs, found successful in one subject, it was carried over into another, of which a notable example is given in the speculations of Count Rumford about the physical properties of water, to which the President has already called your attention. Pure water attains its greatest density at a temperature of about $39\frac{1}{4}^{\circ}$ Fahrenheit; it expands and becomes lighter whether it is cooled or heated, so as to alter that temperature. Hence it was concluded that water in this state must be at the bottom of the sea, and that by such means the sea was kept from freezing all through; as it was supposed must happen if the greatest density had been that of ice. Here then was a substance whose properties were eminently adapted to secure an end essential to the maintenance of life upon the earth. In short, men came to the conclusion that the order of nature was reasonable in the sense that everything was adapted to some good end.

Further consideration, however, has led men out of that conclusion in two different ways. First, it was seen that the facts of the case had been wrongly stated. Cases were found of wonderfully complicated structures that served no purpose at all; like the teeth of that whale of which you

heard in Section D the other day, or of the Dugong, which has a horny palate covering them all up and used instead of them; like the eyes of the unborn mole, that are never used, though perfect as those of a mouse until the skull-opening closes up, cutting them off from the brain, when they dry up and become incapable of use; like the outsides of your own ears, which are absolutely of no use to you. And when human contrivances were more advanced it became clear that the natural adaptations were subject to criticism. The eye, regarded as an optical instrument of human manufacture, was thus described by Helmholtz—the physiologist who learned physics for the sake of his physiology, and mathematics for the sake of his physics, and is now in the first rank of all three. He said, “If an optician sent me that as an instrument, I should send it back to him with grave reproaches for the carelessness of his work, and demand the return of my money.”

The extensions of the doctrine into Physics were found to be still more at fault. That remarkable property of pure water, which was to have kept the sea from freezing, does not belong to salt water, of which the sea itself is composed. It was found, in fact, that the idea of a reasonable adaptation of means to ends, useful as it had been in its proper sphere, could yet not be called universal, or applied to the order of nature as a whole.

Secondly, this idea has given way because it has been superseded by a higher and more general idea of what is reasonable, which has the advantage of being applicable to a large portion of physical phenomena besides. Both the adaptation and the non-adaptation which occur in organic structures have been *explained*. The scientific thought of Dr. Darwin, of Mr. Herbert Spencer, and of Mr. Wallace, has described that hitherto unknown process of adaptation as consisting of perfectly well-known and familiar processes. There are two kinds of these: the direct processes, in which the physical changes required to produce a structure are worked out by the very actions for which that structure becomes adapted—as the backbone or notochord has been modified from generation to generation by the bendings which it has undergone; and the indirect processes, included under the head of Natural Selection—the reproduction of children slightly different from their parents, and the survival of those

which are best fitted to hold their own in the struggle for existence. Naturalists might give you some idea of the rate at which we are getting explanations of the evolution of all parts of animals and plants—the growth of the skeleton, the nervous system and its mind, of leaf and flower. But what then do we mean by *explanation*?

We were considering just now an explanation of a law of gases—the law according to which pressure increases in the same proportion in which volume diminishes. The explanation consisted in supposing that a gas is made up of a vast number of minute particles always flying about and striking against one another, and then showing that the rate of impact of such a crowd of particles on the sides of the vessel containing them would vary exactly as the pressure is found to vary. Suppose the vessel to have parallel sides, and that there is only one particle rushing backwards and forwards between them; then it is clear that if we bring the sides together to half the distance, the particle will hit each of them twice as often, or the pressure will be doubled. Now it turns out that this would be just as true for millions of particles as for one, and when they are flying in all directions instead of only in one direction and its opposite; provided only that they interfere with each other's motion. Observe now; it is a perfectly well-known and familiar thing that a body should strike against an opposing surface and bound off again; and it is a mere everyday occurrence that what has only half so far to go should be back in half the time; but that pressure should be strictly proportional to density is a comparatively strange, unfamiliar phenomenon. The explanation describes the unknown and unfamiliar as being made up of the known and the familiar; and this, it seems to me, is the true meaning of explanation.*

Here is another instance. If small pieces of camphor are dropped into water, they will begin to spin round and swim about in a most marvellous way. Mr. Tomlinson gave, I believe, the explanation of this. We must observe to begin with that every liquid has a skin which holds it; you can see that

* This view differs from those of Mr. J. S. Mill and Mr. Herbert Spencer in requiring every explanation to contain an addition to our knowledge about the thing explained. Both these writers regard subsumption under a general law as a species of explanation. See also Ferrier's *Remains*, vol. ii. p. 436.

to be true in the case of a drop, which looks as if it were held in a bag. But the tension of this skin is greater in some liquids than in others; and it is greater in camphor and water than in pure water. When the camphor is dropped into water it begins to dissolve and get surrounded with camphor and water instead of water. If the fragment of camphor were exactly symmetrical, nothing more would happen; the tension would be greater in its immediate neighborhood, but no motion would follow. The camphor, however, is irregular in shape; it dissolves more on one side than the other; and consequently gets pulled about, because the tension of the skin is greater where the camphor is most dissolved. Now it is probable that this is not nearly so satisfactory an explanation to you as it was to me when I was first told of it; and for this reason. By that time I was already perfectly familiar with the notion of a skin upon the surface of liquids, and I had been taught by means of it to work out problems in capillarity. The explanation was therefore a description of the unknown phenomenon which I did not know how to deal with as made up of known phenomena which I did know how to deal with. But to many of you possibly the liquid skin may seem quite as strange and unaccountable as the motion of camphor on water.

And this brings me to consider the source of the pleasure we derive from an explanation. By known and familiar I mean that which we know how to deal with, either by action in the ordinary sense, or by active thought. When therefore that which we do not know how to deal with is described as made up of things that we do know how to deal with, we have that sense of increased power which is the basis of all higher pleasures. Of course we may afterwards by association come to take pleasure in explanation for its own sake. Are we then to say that the observed order of events is reasonable, in the sense that all of it admits of explanation? That a process may be capable of explanation, it must break up into simpler constituents which are already familiar to us. Now, first, the process may itself be simple, and not break up; secondly, it may break up into elements which are as unfamiliar and impracticable as the original process.

It is an explanation of the moon's motion to say that she is a falling body, only she is going so fast and is so far off that

she falls quite round to the other side of the earth instead of hitting it; and so goes on for ever. But it is no explanation to say that a body falls because of gravitation. That means that the motion of the body may be resolved into a motion of every one of its particles towards every one of the particles of the earth, with an acceleration inversely as the square of the distance between them. But this attraction of two particles must always, I think, be less familiar than the original falling body, however early the children of the future begin to read their Newton. Can the attraction itself be explained? Le Sage said that there is an everlasting hail of innumerable small ether-particles from all sides, and that the two material particles shield each other from this and so get pushed together. This is an explanation; it may or may not be a true one. The attraction may be an ultimate simple fact; or it may be made up of simpler facts utterly unlike anything that we know at present; and in either of these cases there is no explanation. We have no right to conclude, then, that the order of events is always capable of being explained.

There is yet another way in which it is said that Nature is reasonable; namely, inasmuch as every effect has a cause. What do we mean by this?

In asking this question, we have entered upon an appalling task. The word represented by "cause" has sixty-four meanings in Plato and forty-eight in Aristotle. These were men who liked to know as near as might be what they meant; but how many meanings it has had in the writings of the myriads of people who have not tried to know what they meant by it will, I hope, never be counted. It would not only be the height of presumption in me to attempt to fix the meaning of a word which has been used by so grave authority in so many and various senses; but it would seem a thankless task to do that once more which has been done so often at sundry times and in divers manners before. And yet without this we cannot determine what we mean by saying that the order of nature is reasonable. I shall evade the difficulty by telling you Mr. Grote's opinion.* You come to a scarecrow and ask, what is the cause of this? You find that a man made it to frighten the birds. You go away and

* Plato, vol. ii. (Phædon).

say to yourself, "Everything resembles this scarecrow. Everything has a purpose." And from that day the word "cause" means for you what Aristotle meant by "final cause." Or you go into a hair-dresser's shop, and wonder what turns the wheel to which the rotary brush is attached. On investigating other parts of the premises, you find a man working away at a handle. Then you go away and say, "Everything is like that wheel. If I investigated enough, I should always find a man at a handle." And the man at the handle, or whatever corresponds to him, is from henceforth known to you as "cause."

And so generally. When you have made out any sequence of events to your entire satisfaction, so that you know all about it, the laws involved being so familiar that you seem to see how the beginning must have been followed by the end, then you apply that as a simile to all other events whatever, and your idea of cause is determined by it. Only when a case arises, as it always must, to which the simile will not apply; you do not confess to yourself that it was only a simile and need not apply to everything, but you say, "The cause of that event is a mystery which must remain for ever unknown to me." On equally just grounds, the nervous system of my umbrella is a mystery which must remain for ever unknown to me. My umbrella has no nervous system; and the event to which your simile did not apply has no cause in your sense of the word. When we say then that every effect has a cause, we mean that every event is connected with something in a way that might make somebody call that the cause of it. But I, at least, have never yet seen any single meaning of the word that could be fairly applied to the *whole* order of nature.

From this remark I cannot even except an attempt recently made by Mr. Bain to give the word a universal meaning, though I desire to speak of that attempt with the greatest respect. Mr. Bain* wishes to make the word "cause" hang on in some way to what we call the law of energy; but though I speak with great diffidence, I do think a careful consideration will show that the introduction of this word "cause" can only bring confusion into a matter which

is distinct and clear enough to those who have taken the trouble to understand what energy means. It would be impossible to explain that this evening; but I may mention that "energy" is a technical term out of mathematical physics, which requires of most men a good deal of careful study to understand it accurately.

Let us pass on to consider, with all the reverence which it demands, another opinion, held by great numbers of the philosophers who have lived in the Brightening Ages of Europe; the opinion that at the basis of the natural order there is something which we can know to be *unreasonable*, to evade the processes of human thought. The opinion is set forth first by Kant, so far as I know, in the form of his famous doctrine of the antinomies or contradictions, a later form* of which I will endeavor to explain to you. It is said, then, that space must either be infinite or have a boundary. Now you cannot conceive infinite space; and you cannot conceive that there should be any end to it. Here, then, are two things, one of which must be true, while each of them is inconceivable; so that our thoughts about space are hedged in, as it were, by a contradiction. Again, it is said that matter must either be infinitely divisible, or must consist of small particles incapable of further division. Now you cannot conceive a piece of matter divided into an infinite number of parts, while, on the other hand, you cannot conceive a piece of matter, however small, which absolutely cannot be divided into two pieces; for, however great the forces are which join the parts of it together, you can imagine stronger forces able to tear it in pieces. Here, again, there are two statements, one of which must be true, while each of them is separately inconceivable; so that our thoughts about matter also are hedged in by a contradiction. There are several other cases of the same thing, but I have selected these two as instructive examples. And the conclusion to which philosophers were led by the contemplation of them was that on every side, when we approach the limits of existence, a contradiction must stare us in the face. The doctrine has

* That of Mr. Herbert Spencer, *First Principles*. I believe Kant himself would have admitted that the antinomies do not exist for the empiricist.

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been developed and extended by the great successors of Kant; and this unreasonable, or unknowable, which is also called the absolute and the unconditioned, has been set forth in various ways as that which we know to be the true basis of all things. As I said before, I approach this doctrine with all the reverence which should be felt for that which has guided the thoughts of so many of the wisest of mankind. Nevertheless I shall endeavor to show that in these cases of supposed contradiction there is always something which we do not know now, but of which we cannot be sure that we shall be ignorant next year. The doctrine is an attempt to found a positive statement upon this ignorance, which can hardly be regarded as justifiable. Spinoza said, "A free man thinks of nothing so little as of death;" it seems to me we may parallel this maxim in the case of thought, and say, "A wise man only remembers his ignorance in order to destroy it." A boundary is that which divides two adjacent portions of space. The question, then, "Has space (in general) a boundary?" involves a contradiction in terms, and is, therefore, unmeaning. But the question, "Does space contain a finite number of cubic miles, or an infinite number?" is a perfectly intelligible and reasonable question which remains to be answered by experiment.* The surface of the sea would still contain a finite number of square miles, if there were no land to bound it. Whether or no the space in which we live is of this nature remains to be seen. If its extent is finite, we may quite possibly be able to assign that extent next year; if, on the other hand, it has no end, it is true that the knowledge of that fact would be quite different from any knowledge we at present possess, but we have no right to say that such knowledge is impossible. Either the question will be settled once for all, or the extent of space will be shown to be greater than a quantity which will increase from year to year with the improvement of our sources of knowledge. Either alternative is perfectly conceivable, and there is no contradiction. Observe especially that the supposed contradiction arises from the assumption of

theoretical exactness in the laws of geometry. Now the other case that I mentioned has a very similar origin. The idea of a piece of matter the parts of which are held together by forces, and are capable of being torn asunder by greater forces, is entirely derived from the large pieces of matter which we have to deal with. We do not know whether this idea applies in any sense to the *molecules* of gases even; still less can we apply it to the *atoms* of which they are composed. The word force is used of two phenomena: the pressure, which when two bodies are in contact connects the motion of each with the position of the other; and attraction or repulsion,—that is to say, a change of velocity in one body depending on the position of some other body which is not in contact with it. We do not know that there is anything corresponding to either of these phenomena in the case of a molecule. A meaning can, however, be given to the question of the divisibility of matter in this way. We may ask if there is any piece of matter so small that its properties as matter depend upon its remaining all in one piece. This question is reasonable; but we cannot answer it at present, though we are not at all sure that we shall be equally ignorant next year. If there is no such piece of matter, no such limit to the division which shall leave it matter, the knowledge of that fact would be different from any of our present knowledge; but we have no right to say that it is impossible. If, on the other hand, there *is* a limit, it is quite possible that we may have measured it by the time the Association meets at Bradford. Again, when we are told that the infinite extent of space, for example, is something that we cannot conceive at present, we may reply that this is only natural, since our experience has never yet supplied us with the means of conceiving such things. But then we cannot be sure that the facts will not make us learn to conceive them; in which case they will cease to be inconceivable. In fact, the putting of limits to human conception must always involve the assumption that our previous experience is universally valid in a theoretical sense; an assumption which we have already seen reason to reject. Now you will see that our consideration of this opinion has led us to the true sense of the assertion that the Order of Nature is reasonable. If you will

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allow me to define a reasonable question as one which is asked in terms of ideas justified by previous experience, without itself contradicting that experience, then we may say, as the result of our investigation, that to every reasonable question there is an intelligible answer, which either we or posterity may know.

We have, then, come somehow to the following conclusions. By scientific thought we mean the application of past experience to new circumstances, by means of an observed order of events. By saying that this order of events is exact, we mean that it is exact enough to correct experiments by, but we do not mean that it is theoretically or absolutely exact, because we do not know. The process of inference we found to be in itself an assumption of uniformity, and that, as the known exactness of the uniformity became greater, the stringency of the inference increases. By saying that the order of events is reasonable, we do not mean that everything has a purpose, or that everything can be explained, or that everything has a cause; for neither of these is true. But we mean that to every reasonable question there is an intelligible answer, which either we or posterity may know *by the exercise of scientific thought*.

For I specially wish you not to go away with the idea that the exercise of scientific thought is properly confined to the subjects from which my illustrations have been chiefly drawn to-night. When the Roman jurists applied their experience of Roman citizens to dealings between citizens and aliens, showing by the difference of their

actions that they regarded the circumstances as essentially different, they laid the foundations of that great structure which has guided the social progress of Europe. That procedure was an instance of strictly scientific thought. When a poet finds that he has to move a strange new world which his predecessors have not moved; when, nevertheless, he catches fire from their flashes, arms from their armory, sustentation from their footprints, the procedure by which he applies old experience to new circumstances is nothing greater or less than scientific thought. When the moralist, studying the conditions of society and the ideas of right and wrong which have come down to us from a time when war was the normal condition of man and success in war the only chance of survival, evolves from them the conditions and ideas which must accompany a time of peace, when the comradeship of equals is the condition of national success; the process by which he does this is scientific thought and nothing else. Remember, then, that it is the guide of action; that the truth which it arrives at is not that which we can ideally contemplate without error, but that which we may act upon without fear; and you cannot fail to see that scientific thought is not an accompaniment or condition of human progress, but human progress itself. And for this reason the question what its characters are, of which I have so inadequately endeavored to give you some glimpse, is the question of all questions for the human race.

[From Macmillan's Magazine.

SMALL MERCIES.

THERE was once an old woman, who, in answer to a visiting almoner's inquiries as to how she did, said, "Oh, sir, the Lord is very good to me,—I've lost my husband, and my eldest son, and my youngest daughter, and I'm half blind, and I can't sleep or move about for the rheumatics; but I've got two teeth left in my head, and, praise and bless His holy name, they're opposite each other!" Now it has been said that this old woman was thankful for small mercies; but when I use the phrase, I am thinking of what we can do for ourselves or each other, and not of what is done for us in the way of a Dutchman's

breeches-piece of blue in a whole firmament of blackness. It is curious to note how many ways of making things pleasant are missed in this weary world. We are too idle, or too inattentive, or too dull of wit, or too ignorant,—it is usually a little of all these elements,—to take up the hundreds of small resources which surround us for smoothing the wheels of life. A tradesman once said to me, "You would be surprised, sir, to know how very few people find out the really useful, nice things. This now, which you have ordered," referring to a certain article which saved time and trouble in a certain way on which

I shall not be more specific, "it is a very nice thing; but I have not been asked for it once, since I had the stock in. I have tried it in my own family; so I know."

The tradesman was correct; but to what he said I beg to make a customer's addition. It is that it is not always easy to induce tradesmen to get in novelties. They know how difficult it is to push them, whatever may be their merits, and so they hang back, afraid of dead stock. Still a great deal may be done by perseverance in asking for things. The first time a tradesman probably says, "We don't keep it, ma'am." The second time he wakes up a bit, and says, hesitatingly, "We have none in stock, ma'am." The third time he will perhaps say, "No ma'am; but we expect some in to-morrow." And as it does sometimes happen that a useful article will "take" at once, a housewife may, by this kind of perseverance, do her neighbors a service.

The poor, harassed tradesman drops accidentally into the page. I was thinking, rather widely, of the indifference of the generality of men and women—especially women—to the adoption of easy resources of comfort and alleviation within every one's reach. I remember the surprise of a very innocent country cousin at the peremptory injunctions she used to see in London shop-windows, to "Cough No More." And well she might, for there are coughs which nothing will cure. But there are small evils which are almost always curable; the means of cure being within any one's reach; and yet which people go on enduring. To take an instance at random. A gentleman once apologised to me for treading on my foot as he got into an omnibus. "I hope I didn't hurt your corns, sir?" said he jocosely. But I replied, with virtuous and I think just indignation, "I never have corns." A thrill of suppressed displeasure went round that omnibus! "Who is that? Why shouldn't he have corns, like the rest of us?" was the sentiment that throbbed in those offended bosoms. But the question I ask is, why should any one submit to having corns? They cause pain, they make a healthy exercise inconvenient, they disfigure the foot, being, in their degree, as painful to the eye and to the consciousness as hump backs or wens; and in this way they degrade life. Now nothing is

more easy, as a general thing, than to avoid corns in the first place, or to cure them in the second. I had one once, and one only. On former occasions I had become instantly aware of the danger when it impended, and had taken vigorous preventive measures, which were successful. Once, at a time of great fatigue and worry, followed by much walking over shingly ground, I did get a real, painful corn. But what unceasingly astonishes me is that people should submit to petty degradations of this kind. If they will only read or ask doctors, or look about them, they will soon find out how to get rid of corns. As soon as I knew I had this hateful intruder, I got some nitric acid and spent half a day in getting rid of him. Then I took proper precautions, and, though he has made attempts to return, he has always been kicked out at the entry. From such other knowledge as I have of well-kept feet, I am certain that corns may almost always be kept away or cured. There are feet in which they have never even threatened to appear—but then the owners of such feet have taken care of them. There is a story that Madame de Pompadour, or some lady of that order, made a bet that she would compel King Louis to kiss her feet. She did. In the dress of a peasant girl, with a butter-basket on her arm, and with her naked pink-white "tots" in *sabots*, she waylaid his Majesty—who was very soon on his knees to kiss the "tots." No doubt it is understood that any *lady* would keep her feet as tenderly as Madame de Pompadour kept hers. But it is not done; and even school girls will talk of corns, as if they were necessary evils.

Too much upon this particular point. To pass to matters of a totally different order. One great enemy of comfort and excluder of small pleasures, which, added up together go a long way, is routine. "Chops and tomato sauce!" Just so. It was only yesterday that I saw, in a shop-window, bottles labelled, "Tomato sauce—good with chops." Now tomato *is* good with chops—but why with chops *only*. It would puzzle a Philadelphia lawyer to say. And anybody who will make a few experiment will find that he may get both pleasure and use out of the tomato in dishes totally unprecedented perhaps, but quite as good in their way as that which Mr. Pickwick ordered and Mr. Serjeant Buzfuz dwelt upon. Indeed, in the whole subject of

cookery and *pairing* articles of food there is room for endless innovation. I speak what I know, having innovated with success in such matters. Routine murders half our nice chances.

The reference to the uses of the tomato, apart from its pleasantness, reminds me of a class of small mercies which, though of course adopted with gratitude by sensible people, is, on the whole, most ungratefully ignored. I mean, the elegant preparations of physic which are so peculiarly useful where there are children. These are so numerous and so various that it may be pronounced nothing short of disgraceful to any household presided over by intelligent parents that children should be teased with nauseous drugs. Indeed, these pleasant, trouble-saving preparations are not such *small* mercies as they may appear, because they make it easy to administer the little corrective when it is wanted; whereas, when unpleasant means are used, the thing is apt to get put off, and then comes—the doctor.

The extent to which some of the arduous passages of civilised life are helped by small mercies in the way of inventions of comfort and convenience is a commonplace. But numbers of those inventions, even when patented and produced, die out of sight for want of encouragement. And even as to those that are used, there is a great indisposition on the part of nine people out of ten to take just the degree of trouble which puts the small mercies in their proper place. I will put the case of late and long-continuing work at an office, where the means of harmless refreshment are not at hand. Fellows will go on, with aching heads and flagging energies, doing their work about half as well, and *half as fast*, as it might be done if they were in better condition; when, with the help of some of the small mercies invention has placed at our disposal for almost nothing, tea or coffee or soup may be made in five minutes, and half a dozen weary workers refreshed. Then they go on with kindlier feelings and renewed vigor, and the time “lost” in preparing the refreshment proves time gained; for the work is done both better and quicker. It will be seen that I am thinking of cases where the adoption of the small mercies involves a little trouble. This,—the trouble,—is what I find people usually stick at. But, when they would really like what the small mercies would

help them to, would be the better for it and would be helped in doing their duty, there is a certain baseness in this flinching from “trouble.” A man has of course a perfect right to say the trouble is greater than the use or pleasure; but I have never yet noticed that those who do say this are at all unwilling to accept the use and the pleasure too when somebody else has taken the trouble.

Here, indeed, one might go off into a discourse on that (as a German might say) so-usual lack of “gumption,” which teaches how to abbreviate trouble, and *fill up the gaps* in one's little pleasures. The last point is a very large one, but difficult to “fix.” We will take an instance. Perhaps you are fond of walking, and now and then you like to break the routine of your life by taking the train with your wife, sister, sweetheart, or other friend, and rambling about in sweet, lonely country spots. When the dusk comes on, you want a cup of tea, and you like it good. But where are you to get it? I never in all my life, save in the houses of friends, and not always there, had a good cup of tea, except under my own roof, or at some hotel or other place where I was staying, and made it myself. In all London, at this moment, I do not know where I can get a cup of tea on a sudden; good coffee at two or three places, but never tea. There is a certain country inn, which calls itself an hotel, where I have often had a most enjoyable mid-day meal, everything of the best, and where I have had what they call “tea.” But this is uniformly horrible. Now, I can't answer for your feelings, but I know my own; and I know that when I have been out nutting, or gathering wild-flowers, or simply enjoying the country with a companion, and when, rather tired at dusk, we go, as we should by choice, into an old-fashioned little place with a rafter roof and a slenderly carpeted floor, and a magpie chattering in a ramshackle garden outside the queer old casement,—I say my feelings forbid my wounding those of the old dame, who answers the bell, by telling her I will make my own tea. But am I therefore stranded high and dry, and forced to drink the “husband's tea” that old dame brings in with the ham and dear, sweet, fresh butter? I would have you know the contrary. We have a screw of our own raw material about us, and we put that into the pot, and re-

joice over a good cup of tea, with our legs up and our hearts refreshed. I have such simple-hearted confidence in the stupidity of Mr. Carlyle's "most people," that I feel satisfied the added tea-leaves are not noticed after I have gone. Yet I once did fancy—not a hundred miles from Dorking—that the *odor* of the tea we had added got up the nostrils of a certain attendant damsel, and puzzled her. But the fact is, that when I have mentioned little devices of this kind (I have several of them for country rambles) to some people they have been almost startled with the profound ingenuity of the tricks, simple as they are!

One of the nuisances of daily life is the noise occasioned by the slamming of doors. Yet how few, comparatively speaking, avail themselves of the cheap india-rubber appliances which remove this or reduce it to a minimum.

The objection to taking trouble at first is inveterately strong, or else there is a "wrinkle" for *lightening* labor in the long run, and very greatly smoothing life which would be general, instead of extremely rare. I mean, the use of short-hand for purposes of correspondence. How many things go unsaid in our letters for want of time and strength—things which really ought to be said, I mean,—words of kindness or of guidance; or *pleasant* words which would bring a smile to the worn face! Now let it be noted that short-hand writing is, *at the lowest*, from four to six times as rapid as common cursive writing, and can also

be read more quickly—(by any one practiced in it)—and that it need not take any one a degree of trouble worth speaking of, to learn this useful little art; and how irritating it may well be to those who can use it not to be able to apply it extensively in correspondence. Yet, out of a certain round, I do not know two persons to whom I can write in short-hand. And all I can say is that every correspondent of mine who can't read short-hand loses by it; for, otherwise, I should rarely write a letter without a merry anecdote or two; or half-a-dozen,—or a dozen. So strong is my feeling on this subject that, supposing three different systems of short-hand were in use among my correspondents, I would even now think of undergoing the labor of learning all three for the sake of the consequent pleasure.

There are other matters of a similar kind in which our adoption of certain small mercies of contrivance, ready to our hand or easy to be thought of, would greatly help our lives; would, in particular, make us less dependent on the dressmaker, the tailor, the domestic servant, and the "working-man." But it is of no use. People *won't* take trouble—the trouble of thinking, or the trouble of crossing a room. I am sorry for them, for they thus miss a great deal of the pleasure that is enjoyed by

ONE WHO IS THANKFUL FOR
SMALL MERCIES.

[From St. Paul's.]

REMINISCENCES OF ROME DURING THE VATICAN COUNCIL.

BY M. C. O'CONNOR MORRIS.

ROME during the winter of 1869-70 was not the Rome with which Hawthorne and Story have made us familiar in "Transformation" and in "Roba di Roma." Nor was it the tourist-haunted place of which we have in late years perhaps heard too much. It did not promise well as a wintering-place to the nomad population of homeless Americans, or to that increasing class who are in search of "society" abroad, because "society" at home looks askance at them, and who yearly make assault on Roman princesses. The hope of special audience from the Pope, most accessible of crowned heads, was slight, and the presence of so many hundred

bishops augured ill for balls and extravagant toilettes. But though the watering-place element was wanting, there was strange life in the mediæval village which has sprung up in ugly growth among the ruins of old Rome. The antique vase was full of new wine that moved and wrought within its rugged lips. The contrasts of modern invention, and of those customs which have accumulated for two millenniums and a half, the reminiscences evoked when the glitter of this century is paraded on the Imperial ruins, must always be sufficiently startling. But during the Œcumenical Council the sharp oppositions between the past and the present were even

more curiously shown in men than in things. Centuries of which the traces have been obliterated in Western Europe, had their living as well as their inanimate representatives. Ideas of which we knew only the historical fact that such once had been, or that are imbedded in ceremonies of which men had forgotten the meaning, had once more exponents. Unlike other deliberative assemblies, the Council drew together not only delegates from the world as it is, but from scholastic Christendom and from feudal society. Abailard might in it have vexed the soul of Bernard without anachronism. On the steps of Ara Cœli, a Francis of Assisi might have greeted a bishop fresh from New York, and found common subjects of conversation. It is true that the General of the Dominicans, finding himself cold one frosty morning, laughingly complained that four centuries ago fires were not as small or as scarce as now; but from the teaching of Thomas of Aquin were drawn many an argument cogent in the discussions of the day. The "angelic" Doctor was not obsolete in that comprehensive parliament, but could strengthen the thesis of a Dupanloup, academician and deputy in the Paris world. Representatives of a past that includes nineteen centuries, met in strange unity with radical, and even revolutionary, aspirants for a new order of which universal suffrage, redistribution of property, and miscellaneous rights of men, will, they hope, be the bases. A looker-on, not wholly soured by Protestant scorn, must have been impressed by the ferment among these overseers of the Catholic world. He could not but be reminded that men, even when priests, count after all for more than machinery in the control of affairs. In vain I called up memories of Manchester, and compared the defile of St. Angelo with London Bridge; the throb of the Roman Church made itself felt, and for six months her doings were judged worthy of observation by extra special correspondents, so special, indeed, that most of them, being utter strangers to her methods, fell into wild error, scarcely condoned by flowery phrases in their chronicles.

Many of my readers are acquainted with the annual pic-nic at Rome that goes on from November to May. They can recall with more or less satisfaction the intrepid Yankees at the meets; the storm

of St. Peter's by Cook's tourists during Holy Week; the half-converted souls of the Pincian quarter that perseveringly trim between Rome and London in alternate mass and morning service—persons much cheered by Janus, and to whom Döllinger is a providence—in short, the regular and the very irregular visitors, who all, more or less, fall under the strong influences of the place for the time. There was during the last winter of Papal rule no diminution in the power of the Roman attractions. The "princesse Romane" were as delightful sights as ever to the raw foreigners who crowd to their bazaars, and are welcomed as so much "roba di vapore" brought by trainsful to swell the traffic. But all ordinary excitements were dwarfed by the overshadowing presence of the Council. It is certain that the constant attrition of prelates renders them personally less awful to the lay imagination; but that year they were daily redipped in mystery behind the screen of that transept of St. Peter's where they deliberated. But of an afternoon the man was more than the bishop, and even to remote tea-parties the fathers and their theologians penetrated. It would be hard to exaggerate the sufferings of the daughters of Eve on these occasions. The wish to have the last news from the Vatican was that year a severe epidemic. The serene prelates kept their secrets well; but as they stood conversing in violet knots, whether on the Pincian or in some of the favorite salons which they frequented, the suspense, particularly of ladies, touching schemata and postulata became almost more than they could bear. What had been planned by the German bishops at the Bavarian legation, what had been said at the French embassy, was actually more important than the length of Paris skirts or the height of Paris bonnets. Hence wild rumors of incredible projects, and more gossip, and, indeed, more scandal than could have been traced to any lesser passion than that of curiosity unappeased.

Nor was this curiosity unfelt by yet wiser personages. Dr. Cumming "of Scotland," Aali Pasha, the chiefs of the International Society, experienced it in different degrees. Since then we have had other affairs to think about; but there were at Rome that winter men who have played conspicuous parts in those other affairs. I will instance the brilliant Dupanloup, the murdered

Darboy; but without individualising, it would be hard to limit the possible influences of such unusual intellectual friction on men gathered from the four quarters of the globe. Scattered each to his place they have probably spread largely the impressions they received. They have become missionaries of more than their creed; and so the yeasty thought and even the temper and intrigues of the members of the Vatican Council and their clients acquire an importance that purely national parliaments cannot possess.

Therefore some interest should attach even to rough notes taken at the time of men and things as they appeared to the writer during the great crisis of the Roman Catholic Church.

There were many extra-conciliar places where every variety of diplomatist and ecclesiastic might in turn be met. In one favored salon two if not three Patriarchs were weekly visible in the retirement of an inner room, where they were protected by clouds of smoke from the sight of ladies bent on later ball-going, and not sufficiently veiled for Oriental taste. Most picturesque of the venerable magnates was Monsignore Valerga, of Jerusalem. It needed, however, his long white beard to balance the mockery and wit of his mouth and eye; nor did it altogether neutralize the fact that he is an Italian of quite un-Semitic mobility, and familiar with the situation at Rome, which the Easterns *pur sang* hardly seem to be. Calm, good breeding, however, brought them safely through Frankish dinner parties, where they were much stared, and even giggled at, by lively young ladies. The Armenian Bishop of Erzeroum grew one day emphatic in my hearing as he explained to a volatile and over-dressed inquirer, that the seclusion of women was not a Mussulman invention, but a venerable Eastern law, of which the European disregard seriously displeased him. Though much harried by contending parties canvassing for their vote in various questions, the Orientals never presented the wild and scared aspect observable in some bright occidental stars, let us say, of Ireland. Probably because no one knew what to expect from them they afforded subject for abundant gossip. How the Patriarch of Babylon had been snubbed by the Pope of Rome; how all, Parthians, and Medes, and Elamites, dwellers in Mesopotamia, Judæa, and

Cappadocia, had been pledged by the Bishop of Orleans to declare the inopportune of Papal Infallibility; how cold they were in their Trastevere convent until they got their Hammam arranged, were dear delicious bits of news. Great was the interest when Rustem Pasha, minister of the Porte at Florence, arrived to look after their grievances. A Mussulman informed me on that occasion that the Sultan was about to fulfil Islamite prophecy by taking the Holy Father under his protection as the last chance for Christendom. Yet, notwithstanding the efforts of Monsignore Franchi, the visible benefits of this combination have not yet made up for the evil behavior of Western thrones. What shall be said sufficiently discreet of the English-speaking prelates, all eminently decorous, and if not all equally high-bred, at least equally respectable, whether from Canada or Australasia. It was curious how Irishmen from the colonies differed from the Irish of Ireland. Confident of their position, frank in conversation, trimly and even handsomely dressed, they had evidently prospered, and did not share the uneasy situation of the Hibernian hierarchy, pledged as it is to sympathies with liberalism ill viewed at Rome, bound by superior orders to keep the peace towards England, and yet imperilling its diocesan power if indifferent to the "last thing" in Irish agitation.

In mixed society the successors of St. Patrick looked, many of them, scarcely at ease, and on their rugged and anxious faces the light of Irish humor was rare. Shy and poor, with a few notable exceptions, they kept much together. To those who know anything of Ireland it is unnecessary to praise the statesmanship and culture of such a man as Bishop Moriarty, lately distinguished for his far-sighted patriotism in the Kerry election; excepting him probably the most distinguished Irishman at Rome was Father Burke, of the order of Friars Preachers. Very Irish in voice, his features mobile rather than well cut, genius, and an intense conviction of the truth he delivers, transform him in the pulpit. When his tall spare figure, robed in the white and black Dominican habit, confronted his audience, the hearer, even at Rome, where there was so much of ecclesiastical effect, involuntarily listened for the wisdom that might issue from the mediæval orator. His mind had taken its

bent from study of the Summa, and he seldom wandered into the shallows of Protestant controversy. He was direct and practical in his exhortations, as might have been Savonarola, even in the stiff circle of the church in the Piazza del Popolo, where the coat of Romanist doctrine is perseveringly trailed before the residents in that English quarter. But to hear Father Burke in perfection it is necessary to visit Ireland when the intense sympathy of his audience elicits the full power of his eloquence. I have seen a congregation there break into exclamation when he described a miracle of the Gospel as if they actually witnessed it. After the Clerkenwell explosion he did good missionary work among the Irish of east London, when many of them had fallen into that worst savagery—the savagery of corrupt civilization. As remarkable as his power of serious speech, which has this winter, according to newspaper report, wrought marvels in New York, is his social wit. Those fortunate enough to find him pacing on the shady side of the atrium of St. Clemente, where his order has a house, or who could prevail on him to join in a *campagna* ramble, found that Irish genius had a representative not unworthy of its highest reputation; in the austere Dominican.

It was a great year for preachers, and sermons were a favorite dissipation, though Mr. Spurgeon had not yet testified within the walls of Babylon. Occasionally the clear and polished sentences of Monsignore Manning drew all acquainted with English to hear his teaching. He was also an object of curiosity as one of the leading Definitionists, as those were called who desired the declaration of Papal Infallibility. As he denounced dynastic meddling in the affairs of the Church, though he admitted that the bark of Peter was "putting forth on the deep ocean in a whirlwind," diplomatists viewed his doings with interest, and anti-Definitionists were conscious of uneasy disgust when he used his acquaintance with parliamentary forms in checking discussion and marshalling the serried majority. As he walked for exercise on the Pincian, his eyes bent on the ground, his lips moving as if he were rehearsing an oration, many turned to look after the ascetic chief of the English hierarchy.

English listeners were, however, few in number compared to the dense masses

which, in St. Louis des Français, gathered long before the time to hear the popular French preachers. Two hours before Monsignore Mermillod, the charming bishop who numbers in his flock more than half the population of Geneva, rose in tender grace upon his audience, there was not standing room within the vast nave. Breathlessly the crowd listened to each gorgeous period, and at their close were irrepressible murmurs decomposable into "*très bien*," "*très bien*." To report with stern inaccuracy, as some of our newspapers did, his comparison of the "feeble old man of the Vatican" with the Child of Bethlehem, was a cruelty which sorely annoyed him, and in reply to the comments of the *Full Mall Gazette* he was eager to explain that he had likened the authority, but not the persons of whom he spoke. Caution was generally, indeed, observed by the preachers, conscious of ravening critics eager to scent heresy, or to detect inconsistency. Those careful not to offend the genius of the place and time confined themselves to general moralities; but French ears itched, and required allusion more or less direct to the "questions brulantes" of the hour, or at least strong doses of first principles. So, at St. Louis, men of all continental sects, and of every shade from blood red to lily white, grey-coated Zouaves and newspaper correspondents, might have heard subjects discussed in which they were interested, from analyses of Comtism to the political action of the Roman Church. Monsignore Mermillod, accustomed to the situation at Geneva, the metropolis of advanced ideas, did not hesitate to declare Catholicism favorable to the most advanced republicanism. "*Eh bien le grand malheur!*" he exclaimed, when it was suggested to him that before long Church and State might be not only separate, but antagonistic powers. Never was his brilliant eloquence more persuasive than when he taught that the action of the Church was always suited to the needs of the age, and that she alone could secure the fruition of men's legitimate desires. She alone, he announced, can guide the universal suffrage demanded by modern citizens; she alone asserts the nobleness of labor in a day when working men are imperatively asserting their rights; she alone can transform that poverty which, without her guidance, threatens society with ruin. Very powerfully the spokesman of the Gene-

van Catholics praised work, "the law of creation fulfilled by the Eternal Worker, but too generally disobeyed by the rich, though they are paid in advance for their labor."

Perhaps the most followed of the French orators was the Abbé Bougaud. Closer and closer were packed the chairs, and intrepid ladies fetched fresh supplies of them from the sacristy and even neighboring houses, carrying them over the imperilled heads of the congregation to some coign of vantage. Distinguished strangers arriving only half an hour before the time gazed with disquietude about them at the masses through which they must penetrate. Yet a French crowd is always more patient and unselfish than an English assembly of the same rank. No looks of spite followed newcomers tottering to their places, and stumbling through flounders as they made for some beckoning friend. The impulse was to assist and make room under difficulties sufficiently exhaustive of philanthropy. To English taste the object of this enthusiasm was perhaps over rhetorical. At each point of his sermon he wiped his face and sat down to rest with careful exhaustion. Being of the diocese of Orleans he did not, for obvious reasons, allow himself in the same radical novelties as did the zealous Definitionist, Monsignore Mermillod. English readers have some cause to dread the thought of sermons, and I should not weary them with reminiscences of the Roman pulpit, except as they illustrate the peculiarities of that winter. Our insular belief that Catholicism is reactionary and indiscriminately conservative of certain forms of authority, seemed to me largely contradicted. An observer of the effervescence then acting in the very centre of the system, could not but perceive that the idea of a theocratic republic, as comprehensive as the atheistic republic of the International Society, was nursed by some far-seeing ecclesiastics, not perhaps possessed of those hostages which Cardinal Antonelli has given to fortune. For a time the mediæval discipline and temporal traditions of the Roman power may bear the strain now put on them, but who can say whether the Vatican Council may not prove in ecclesiastical affairs what the call in 1789 of the States General was to feudalism? In any case it was suggestive of thought to know that men we imagined to be, by virtue of their office,

retrograde, are capable of kicking off concordats, and of renouncing partnership with modern astynomocracies. In Ireland, as has been lately inconveniently proved, the long series of events which have kept that island outside the European pale, has preserved in it a priesthood and even a hierarchy singularly different from those established in countries that belonged to the great mediæval family. Certain forces that are latent in the Catholicity of the continent visibly work in the long-outlawed church in Ireland. It has preserved the communistic and revolutionary leaven of the earlier Christianity, nor has it been adulterated by State influences. Expansive rather than repressive, sympathizing with the claims and dignity of labor, the vitality of the Catholic faith in the Irish race suggests what part this dormant leaven may yet play in a reconstruction of European society. Shy, unpolished, and threadbare, as are many of the Irish prelates, they probably possess power lacking to the well-born Austrian, or the well-endowed Spanish dignitaries, for their power is rooted in the lower strata of society, and who can doubt that there is every prospect of social upheaval?

But in 1870 the Roman Court had not yet become mendicant, or known the instincts that belong to poverty; and there was evident friction between the immutable Vatican and the episcopal tribunes that had learned the power of the people in such Red centres as Geneva, that had felt the pulse of Westminster republicans, and that were delegates of five millions of Irish malcontents. Yet it was logical, though startling, that among such prelates, the desire for ecclesiastical Cæsarism should coincide with adoption of advanced social formulas, and equally reasonable that they should feel little sympathy with the aristocratic government of an episcopal assembly, or with constitutionalism in church affairs. A dead level of the faithful under one supreme head commended itself to their political, perhaps more than to their theological, tenets. Therefore, the fact is explicable that among the more active promoters of what is called Ultramontanism, are prelates of radical tendencies in social matters. Too much has probably been made, when the organization of the Roman Church is discussed, of the dependence of missionary, or unestablished bishops, on the Papal court. There are other beside

personal ambitions that tempt ecclesiastical enthusiasts. To the divorce of Church and State, and the triumph of the voluntary principle, some look with satisfaction, and from social disruption, in which existing codes shall for a season disappear, a vast revival of Christianity may, it is hoped, ensue. However long allied to the powers that be, the Roman hierarchy is not organically bound to any existing forms of government; and once fairly pauperized it is not impossible that it may fall back on those reserves of liberty, equality, and fraternity, which were its social strength in early times. It was impossible during the Vatican Council not to perceive that these thoughts were in the air, however they might have been disclaimed by literal readers of the syllabus—by the Secretary of State for excellent, if personal, reasons, and by the Pope, reactionary since Rossi's assassination, but once eager in radical reform. Some parallel tendencies of modern Catholicism are notable in the attitude of the Irish and Anglo-Colonial hierarchy. Of the 111 prelates within English jurisdiction, few are cordially attached to the existing order, though conservative of certain first principles on which a new fabric of society can at need be built. Secure in them they are, as was Noah ready for the deluge; and, indeed, the Irish priests seem to invite the cataclysm as if they were so many Mother Carey's chickens.

But to leave graver considerations, it was not altogether unsatisfactory to see Hibernian Bishops who have lately indulged rather in the profits than in the sufferings of persecution, confronted with men who had endured the paternal mercies of Russia. Many lessons we will hope were exchanged between the Western fathers and the greybeards of the East, who offered as ever to the rougher and less spiritual occident their gifts of gold and frankincense. What may not have passed in the groups of violet cloaks and green corded hats which, on fine afternoons, clustered on the Pincian! They were an undoubted and practical power even there among the world of prismatic ladies and Italians of the tightest trousers and squarest toes. The irrepressible female could not, however, but assert herself in *limine apostolorum* even during the Council, and some half dozen charming individuals came to the front when theology was at fault, and doctors even of divinity disagreed. A

wit among the fathers discerning their merits, declared them "*matriarches*," of perhaps more weight than the patriarchs. Chiefly French, though Bavaria was not unrepresented, they were naturally "*frondeur*," and when were witty women not on the side of a brave minority? In Mrs. Craven's salon were weekly collected the foremost talent at Rome, lay and clerical, while her wide acquaintance with English, German, and Russian society, brought there the more distinguished representatives of the European nations. We should not recall the name of an individual star in the firmament of that winter at Rome, were hers not already well known in literature. The daughter of Comte de la Feronays, Mrs. Craven also belonged, by the diplomatic ties of her husband, to the Palmerston world. But besides accidental and hereditary claims to hold a brilliant salon, Mrs. Craven, the close friend of Madame Swetchine, the adopted sister of M. de Montalembert, holds no mean rank in that small, but powerful and ardent party, which has kept alive in France the nobler traditions of the past. To many readers of these pages she is probably known by her memoirs of her family, entitled "*Le recit d'une Sœur*," a book crowned by the Academy, but which is more honored by a circulation which has exhausted twenty-four editions.

In Mrs. Craven's salon, brightened by the grace and cordiality of her welcome, there was to be found a society unlikely ever again to be re-united. The slight, spare figure of Monsignore Darboy was to be seen among her guests. His grave and very calm manner inspired perfect confidence in his sincerity, however harsh the interpretations put on his attitude of firm opposition to some proposed definitions of Papal Infallibility different from the formula finally promulgated. The pleasant, eager face of Monsignore Strossmayer, most recalcitrant of bishops, suggested quite other powers. Capable of sarcasm, his intellectual head and brilliant eyes seemed readier for controversy and even Protestantism than martyrdom. Yet in him were not wanting the signs of the "*vrai pasteur des âmes*," as he was called by Montalembert. Croatia might be proud of him, as Hungary was of Haynald, archbishop, but also grand seigneur to the tips of his fingers; learned botanist, linguist even to the extent of knowing Eng-

lish, eloquent statesman at home, and a chief speaker in the Council, his gorgeous chasseur and the air of magnificence in his belongings, seemed well suited to him. It was evident in his company that the Austrian Church had suffered no disestablishment, and reconstruction on insecure foundations, as has the French priesthood. The hand to hand struggle with revolution of the atheist variety has told even on such legitimist and burly prelates as the Venetian bishop of Poitiers, noteworthy in Imperial annals for disobedience to Cæsar. Yet he expressed himself to me strongly in disapproval of the Irish disestablishment, and declared that in that measure old Catholic principles had in England received their first serious defeat. He seemed by no means displeased to have in his diocese unprogressive peasants, who have steadily refused to admit the ecclesiastical compromise made by Rome with the First Empire, or to consider its provisions sufficient to legalize their marriages.

But to meet the most distinguished of French ecclesiastics, it was necessary for a layman to leave the crowd in Rome and drive beyond the railway station, down a lane shaded by bay trees, to the charming villa Grazioli, where, framed in pleasure-grounds laid out with the grace of Italian, if not with the geometrical tidiness of English taste, Monsignore Dupanloup and his chaplains found their temporary home. Every Sunday the distinguished academician received his friends. If the weather were fine he formed his circle under a spreading ilex in the garden. It would be hard to describe the mixture of suave courtesy, yet eager interest with which he conversed on any subject that interested him. Evidently impetuous and masterful by character, there was in all he said the self-control of practical piety. With quick sternness he checked lay criticism of the episcopal manœuvres notorious in the Council; but the shyest and most diffident of his visitors he readily set at ease. When momentarily preoccupied, the venerable head—always in all weathers and all places uncovered—showed fatigue and age as it slightly shook, and undue flushing proved the ill effects of the Roman heat as the months of Conciliar struggle wore on; but at a word touching interests dear to him, the eagle eyes brightened, and the bishop became animate with a genius and dignity that none other of those

with whom I had the honor of acquaintance so visibly possessed. He was keenly attentive to reports of English thought, to which he attached an importance not always felt by our neighbors, and he readily acknowledged that the attitude of the Roman Court that winter made it difficult for English statesmen to deal fairly with Catholic claims. To so many that interest themselves in the struggle of faith and unfaith, the name of Dupanloup is a household word, that I linger on the familiar memories of his Roman villa. Even in the details of his household life there was distinguishing character. The energetic step, erect head, decisive gesture, revealed even in his private oratory the zealous champion of national rights. Not a whisper of cant was in the frequent return of his conversation to religious subjects. As he rapidly said mass, his feet firmly planted on the steps of the altar, a looker-on could not but be conscious of the fervor of his credo. Even among Frenchmen, at all times less affected by conventionality than we are, the Bishop of Orleans is an example of simplicity and direct common sense. There was no circumlocution in any department over which he ruled. No dawdling over breakfast and dinner. At meals a vicar said grace, and then read Latin lessons most of the time; but when the spiritual instruction was over, conversation broke out all the fresher, and every spare moment was used when English were present in good talk that showed the bishop's intimate acquaintance with our country, and its modes of thought and life.

The presence of nearly eight hundred fathers and their attendant clergy considerably disturbed the usual ceremonial arrangements. The Court of Rome was to some extent overshadowed by the exotic spiritual lords. Cardinal Antonelli, Monsignore Major Domo Pacca, were not chief objects in the foreground. Even the principesse Romane found themselves jostled in the crowd of theologians, and their privileged palco in St. Peter's was curtailed. Great disgust was felt by sight-seers, especially of the Protestant variety, at the withdrawal of privileges formerly granted by the palace officials. No raised seats were reserved for American belles and ladies in "society." There were railed pens for veiled women, but the first comers filled them at preternatural hours,

and what ladies and what veils availed themselves of the chance! No miserere in the Sistine Chapel, or pathetic tenebræ, begot the acrimonious crushing of uncontrollable fine ladies, for the sacred chants of Holy Week were sung with much impaired effect in a chapel of the Vatican basilica. As a rule it was not a good time for exclusives, though the patronage of high officials actually on duty helped a few favored ones to see and be seen even more than in former seasons. The violet monsignori of the palace were insignificant in the episcopal flood, but colonels commanding, and the one Papal general, could now and then pass a flattened fair one along the lines of soldiers to snug corners where amiable *guardie nobili* let her peep under their epaulettes. At the principal ceremonies only bishops who are what is called attendant on the throne were in full dress, nor did those of the Latin rite wear in the Papal presence other than white mitres. Still in the candle mass, and on Palm Sunday, the procession was long, and the white stream, pinnacled and broken like a miniature glacier, flowed with singular effect up the vast nave of the basilica, between the blue and gold lines of the Palatine guard. I had been before familiar with the effects of Easter ceremony, so I noted chiefly the differences of that last gala from its predecessors. Probably never before were so many Eastern crowns collected in the Latin temple, and their presence gave dignity to the scene, and assisted the imagination in its yearly effort at Rome. If the privileged minority were less prominent, the varied crowd was more imposing in the great space under the dome. It swayed and seethed, little affected by the efforts of the burly Swiss, and seemed, in the fullest sense of the word, a popular assembly. When first raised in his *sedes gestatoria*, the Holy Father's countenance bore a more than usually resigned, and prepared for the worst, expression; but when at last the fans tipped with peacock's feathers were under way, and the echoes of "*Tu es Petrus*" rolled from the distant doors, absurdities such as those which occur in every mixed mob were forgotten in the marvellous pageant, more marvellous in its surroundings that year than perhaps ever before. As the white figure, indescribably serene, borne in the crimson chair, advanced slowly and dealt blessings

as he came, the rabble of cardinals preceding him vanished into space, and hardly left on the mind as much trace as did the seven Swiss guards, who were representing the seven Catholic cantons, in immediate attendance on the royal priest. There was little different in the subsequent incidents of the day, until just before the world-wide benediction: the balcony whence it is delivered suddenly became a square of white mitres, from amidst which came the sweet, clear voice, chanting the blessing, and making its power and supremacy felt by the hushed crowd, however controverted by many of its members.

Apart from the disturbance of court ceremonial, and the partial disuse of etiquette which resulted from the presence of so many illustrious guests, successors of the Apostles, and therefore made free of St. Peter's city, the enclosure of the southern transept of the Vatican basilica greatly marred the scenery of the ceremonies. When the Council sat within the screen which preserved their privacy, no lay persons were permitted even to approach it; but it was a not unpopular lounge to wait at a discreet distance and see the Fathers pour out of the narrow doors when their day's work was done. I happened to be one of the little crowd that looked for their appearance on the day when Bishop Strossmayer raised a tumult by his praise of Leibnitz and Guizot, as, though Protestants, useful auxiliaries to the Church. The commotion within was audible in the nave; there was a sort of shout when the undaunted speaker left the tribune, saying energetically as he did so, "*protestor*." Some of those outside, full of the question of the day, responded rather irrelevantly, "*Viva il Papa infallibile*," to which counter cries arose, until the lesser ecclesiastics were as ready as any Montagues and Capulets to bite their thumbs at one another. But suddenly a bell rang, the doors opened, and the reverendissimi hurried out in haste and confusion. Among the first were some Easterns, probably scared by Frankish manners. In contrast to the faces, redder or paler than usual for the most part, one wooden, mournful countenance, like a Byzantine mosaic of the ninth century, was noteworthy as a symbol of Oriental orthodoxy. Two or three fathers passed sedately, chuckling like elderly schoolboys fresh from a row.

Rumor was busy that evening in the salons. At the French embassy were some startled faces, and there was much gossiping in corners, even while the usual semi-amateur songs and piano exercises were going on. Liberal Catholicism was being severely snubbed, and, smarting under various allocutions, briefs, and private utterances from the highest quarter, it was ready to be offended by the affair of the morning. Doubtless the knot of devoted Romanists who, when Lacordaire was young, had revived Catholicism, and freed it from State trammels in France, had cause for annoyance when they found themselves officially flouted in the Council, with the assembling of which their labors for forty years had so much to do. At the opening of the Exhibition M. de Falloux had been reprimanded by the Pope in public speech for an assertion wrongly attributed to that excellent writer, that the Church needed a dose of the principles of '89. With one of the dignified gestures, and in the ringing voice for which he is remarkable, the Holy Father repudiated that form of revolution in this Church; but, notwithstanding supreme frowns, the countrymen of Dupanloup, Gratry, and Montalembert, resented keenly the formal condemnation of ideas more cherished three years since than perhaps they now are. The censure passed on the memory of M. de Montalembert was indignantly repudiated by his friends. His death had been telegraphed, and at a public audience on the same day was pronounced by the Pope a severe reproof to "semi-Catholics," and a stinging condemnation of the "pride" which had been the dead man's enemy. It was probably not then known that M. de Montalembert had, as became so faithful a son of the Church, declared his submission to every decree of the Council whatever it might be. As a patrician of Rome, he had a claim to a funeral service in the parish church of the municipality. Notice was sent without question, therefore, to those likely to attend, that it would be held at the Ara Coeli. Great was the disgust of those invited when, arriving at the top of the long stairs leading to that historical fane, where Franciscans have replaced the priests of Jupiter Capitolinus, they found M. Veuillot of the *Univers* in a position to inform them that the service was forbidden, lest it should be used as a Gallican demonstration. After-explana-

tions but little soothed French feelings; murmurs arose in the French camp; M. de Banneville looked more than usually absent, and his wife more than ever bored, as the Syllabus, in spite of Imperial remonstrance, loomed in open antagonism to Napoleonic ideas.

Various vexations, and the tension of parties during March, rather broke up society. Where opinions differed, friendships were strained, for opinions on certain subjects involved social anathema and excommunication. Polite and benevolent souls were scared by the strong epithets applied to venerable personages. It is difficult for those outside the pale to realize the situation, yet they can imagine something of its importance to men loyal to their faith, but not less loyal to truth—men who are pioneers of a very noble progress yet are obliged to reconcile it with the claims of orthodoxy in a way that those can hardly appreciate whose Church is an affair of convenient compromise. When spring advanced, vigorously beautiful as is the Aurora of Guercino, the most learned bishops rejoiced to escape beyond the musty walls. Discussion slackened in the face of stringent rules, arranged by the majority in the Council for its own convenience. Vatican frowns, and now and then an ominous signal from the Papal forefinger, had discouraged the most persevering of the minority. Errant fathers might be found not only at the Lent stations held at the various ancient shrines, but watching the excavation of marble blocks at the old Roman wharf on the Tiber, left there since the Augustan age began its decline, or studying the painted house just found on the Palatine.

At Ostia, Tivoli, Tusculum, Australian bishops and American belles, Hungarian prelates and wild Irish girls crossed each other's paths, pic-niced together, and were not superior to social rides on the donkeys of Frascati. At the Villa Doria, where the world, his wife, and his footman emulate one another in picking violets, were not wanting episcopal Strephons, if not armed with the official crook, well supplied with sunshade and umbrella. I do not remember seeing the ubiquitous green-corded hat at the artists' beery revels of Cervara, or at the burlesque steeple-chases; but it was not unrepresented when the Papal army played at war among the bluffs and meadows of the Campagna. Bishops

are not without the pugnacious instincts of drum-beating humanity, and there was very creditable pomp on the field-days. Many wearing the ecclesiastical dress trudged by the dusty battalions along the fennel-fringed roads to the temporary seat of war, good customers to the vendors of oranges, and picturesque in their flowing soutanes, buckled shoes, and knee-breeches, not less than the grey Zouaves. If ever there be a Papal army of some twelve thousand men once again collected, it will probably not be of quite the same material as the last, into which hot bloods of the Legitimist faith entered largely. The fair, sun-burned Charette belongs now to France by service not less than by Breton birth, and such of his men as have survived the defence of the Orleanais have work to do at home. No troops seemed gayer than the Zouaves on the Asphodel plains of the Campagna, where, work over, there was dancing, or rather prancing of gaitered boots that would have distracted Aldershot. There was little distress apparent on the return march through sun and dust in the blue-grey lines. Singing was encouraged, as were the antics of a pet-dog that ran along from shoulder to shoulder as the column moved. Of the various corps perhaps the Swiss Carabineers were most soldierly of aspect, thanks to their Fribourgeois colonel, who had seen service at Ancona and elsewhere. Generalissimo Kanzler's countenance was ever in its crimson sternness a portent of war, unavailing, however, in the following autumn to turn back the pallid Italian soldiers of the modern Attila when they appeared over against the Porta Pia. True, they were used to the eminent ugliness of the modern Attila himself—an ugliness that has a certain value in a country where the taste is cloyed by straight features, and by a recurrent type of regular beauty suggestive of other qualities than courage and honesty.

If the fathers of the Council were present at a Tombola, or at the weekly lottery, they were in lay costume, a relaxation sometimes claimed by English-speaking prelates, to whom, as to all their race, uniforms are a weariness, and chimney-pot hats a satisfaction. But the civil costume was not viewed favorably by the Court, and more or less betokened insurgence. For all that, the most distinguished of the Irish bishops, reared in the school of

O'Connell, too liberal to support either Home Rule in Ireland or ecclesiastical centralization at Rome, was not seldom pleased to leave the Leonine city and visit, Horace in hand, the billowy plain outside. Thoughts of Ireland must often have crossed and saddened his Roman reverie. Within the shadow of the Imperial ruin he could not but have thought regretfully of so many among his junior clergy who share the political passions of their flock; and of the modern agitations, no longer controlled by patriotism, but imported ready made for traffic, from America. His experience could hardly approve the scarcely healthy development of clerical power in Ireland that studiously dissociates itself from even the orthodox of the upper class, that is truly a "free church in a free state" in defiance of the Syllabus, and uses its freedom in assaults on the powers that be. As a rule, the Irish bishops did not visibly brighten in the sunshine of the Vatican. Austere by habit, and in chronic antagonism to principalities and aristocracies, some among them presented a slightly wild appearance, not in harmony with the ceremonious state of established magnates. They seemed unused to play a part in royal pageants, and to find themselves elbowing ambassadors, as for instance, at the opening and close of the Exhibition of sacred art and articles, when, as I before remarked, revolutionary politicians were well slapped in the face. Yet the very existence of the Exhibition was a recognition of our existing world which, in the cloisters planned by Michael Angelo, met in fair challenge the products of the past. Never were there sharper contrasts of mediæval and modern invention. Marvels of printing from the great houses of France and Germany, excellent for their cheap correctness, were shown over against illuminated MSS. Handy specimens of cheap church ornaments, gimcrack images cast by the thousand, competed with the antique repoussée plate of S. John Lateran, or with jewels of the Cellini era. Lace vestments, that might have occupied several lifetimes, and were the products of enthusiastic devotion, were mingled suggestively with the neat machine-work that is one of our pet successes. The triumphs of fabrication competed with the triumphs of art. We know how art was at once the child and the minister of the religious revivals of the

middle ages, but probably exaggerated credit has been claimed for its influence in determining faith. The Roman Exhibition, however that may be, proved that such influence was no longer powerful. Faith can no longer expect help from painter or sculptor. Conversing on the prospects of his Church, an American ecclesiastic, editor of a widely circulated magazine, suggested that Rome needed a new Dominic to found an order of writers, the old methods of persuasion having become exhausted. But it seems that journalism is also a declining power. Is faith to rely on telegrams and posters, or must the heavenly maid resolutely free herself from adventitious aid? Her cause is seemingly injured by merely imitative art, nor can she gain by coquetting with shoddy and lacquer, and the emasculate prettinesses which formed the staple of exhibits in those old Carthusian cloisters. There was instinct, perhaps more infallible than logic, in the repudiation of novelty with which Pius IX. opened the show, though at its close he thought it expedient to proclaim that the Church protected true progress, and was stationary only in dogma. The progress of which there were samples there, was evidently not of a sort to strengthen men's love for beauty, good, or truth. If Christianity once more creates a Christendom, it will be by force of defined doctrine rather than by compromises with taste, or concessions to shifting science. It is noteworthy that the Pope and Professor Huxley are equally persuaded of the power of sheer Catholic dogma as an opposing force to naturalistic decomposition of religion. During that last year of gorgeous ceremony and conciliar blossoming of the old stem, who could have foretold the coming shadow that within six months fell on the Vatican basilica? Yet a close observer could have seen that new cloth was being pieced on the old garment. The manifestations of Italian worship were at once too much and not enough for the occasion. Representative men from the new worlds met the venerable past, and the foundations of faith and morals were discussed within S. Peter's in a way hardly anticipated by Julius the Second and Leo the Tenth. Appeals to the imagination by a splendid ritual, lost much of their power in presence of graver thought. In 1869 the shows of Rome were valuable traditions of the Italian past; artists and pon-

tiffs, associated with the great city from S. Leo to the present Pope, from Giotto to Tenerani, were represented in their dignified pomp; but, in 1870, a new leaf was turned, and æsthetic beauty was secondary in the minds of the faithful. Their creed had been attacked at its foundations, and those foundations had to be re-examined and re-affirmed. The authority, still less the customs, of the past no longer bind men, and in that last season of Papal sovereignty within territorial limits, the Church girded itself for warfare under new conditions, and armed itself with first principles and laws that had long lain disused in its arsenal.

So the solemnities of Easter-day, though in 1870 the crowd was unusually vast, paled in the event of the following Sunday, when, in the third public session of the Council, the "dogmatic constitution" "*de fide Catholica*," was voted unanimously by six hundred and sixty-four fathers present. Its chapters treated of God the Creator of all things, of revelation, of faith, and of faith and reason. For this re-affirmation of the chief Christian doctrines in protest against the "isms" of the day, the Council-hall was thrown open to the view of the lay world, though railed in and protected by *guardie nobili*. I was fortunate enough to be in the inner rank of the crowd, and so in the immediate presence of the august assembly; and, as the leading truths and immutable justice of Christianity were marshalled in battle array against the contradictions of the age, the usual influences of S. Peter's vanished. Monsignori were forgotten, the so mighty dome, and even the crypt, where many great dead repose, were nought. In gold mitre, key-stone of the arc of bishops, sat the Vicar of Christ, the "old man of the Vatican." Long perspectives of white mitres, here and there broken by the jewelled crown of an Eastern prelate, and notably by the bare head of the Bishop of Orleans, led up to the throne. Episcopacy, however, uncomfortably, seated on the narrow rows of hard benches, certainly looked more venerable than when hustled in the outer world. As a rule, the faces of the fathers were serene and ascetic. The most steady Protestant could hardly resist a novel sensation when he found himself face to face with a body of learned and sincere elders which unhesitatingly professed to hold the keys of absolute Truth—

not of working hypotheses, but of verity above intellectual wrangles. Whether they possessed it or not, their calm assertion of it in that particular congregation threw other Roman scenes quite into the shade. Before mere Papal galas can rouse the emotion they once did, that sight must be forgotten by those who witnessed it, and who listened to the solemn *Te Deum* which followed the six hundred and sixty-four placets of the fathers.

War and various troubles have come on Europe since the boat of Peter made ready for tempest and attack. Her holy-day flags are probably as well furled, but the action of her captain and crew is curiously suited to events, and in the anti-Popish prejudice of Englishmen, they probably underrate the significance of the course the Catholic Church is steering. The opposition to modern "breadth" officially declared in the session of April 24th, 1870, marks an epoch in Christian history far more important than the declaration of Papal Infallibility, about which so much noise has been made. After that supreme effort of the unanimous fathers, the straggling *campagna* village seemed less and less suited to the new vigor of Catholic action, yet hot discussion in the feverish air continued among the exhausted bishops till even Yankee divines lost energy; for misunderstanding and misuse of words had raised antagonisms that ceased when the final definition of ex-cathedra authority was decreed in terms that satisfied the sincerest opponents to a dogmatic enunciation of exaggerated infallibility. The languid at-

mosphere seemed only suited to dealers in iced waters and lemons. Faun-like *contadini*, and Franciscans crafty in pursuit of shadow, indolent Romans and wily Italian conspirators, reasserted themselves as time-honored custodians of the mediæval town, and at last, three weeks of silent summer calm followed the final throes of the Council. Since then, what new horizons have opened on the ship of souls! The diplomacy of Cardinal Antonelli, the policy of *Consalvi*, no longer guide the new theocracy. It has roused the distinct opposition of men once simply contemptuous of its course. The Rome of the middle ages probably wore its braveries for the last time at the Easter of 1870. There are vast successes not less than vast difficulties before the ark that has launched forth on the deep of modern society. Abandoning feudal anchors, hoisting higher than ever the ensign of infallibility, it seems prepared to sail as winds may blow, equally ready for the most advanced republicanism as for paternal *Cæsarism*—for Galway elections as for Paris martyrdoms—but preferring perhaps democracy to plutocracy, as being more susceptible of Christian influences, and less disobedient to the ten commandments. Meantime the winter of 1869—70 at Rome was a not unimportant season; seed of which we have not seen the fruit was then sown, and even these trivial reminiscences of some mundane aspects of the *Œcumenical Council* may not be without interest to readers curious in contemporary history.

[From the *Contemporary Review*.]

THE STRANGE ADVENTURES OF A PHAETON.

BY WILLIAM BLACK, AUTHOR OF "A DAUGHTER OF HETH," ETC.

CHAPTER XXVII.

ALONG THE GRETA.

"You stood before me like a thought,
A dream remembered in a dream.
But when those meek eyes first did seem
To tell me, Love within you wrought—
O Greta, dear domestic stream!
Has not, since then, Love's prompture deep,
Has not Love's whisper evermore,
Been ceaseless as thy gentle roar?
Sole voice, when other voices sleep,
Dear under-song in Clamor's hour."

"Now, Bell," says Tita, "I am going to ask you a serious question."

"Yes, mamma," says the girl, dutifully,
"Where is the North Country?"

Goodness gracious! This was a pretty topic to start as we sat idly by the shores of Derwentwater, and watched the great white clouds move lazily over the mountain peaks beyond. For, did it not involve some haphazard remark of Bell's, which would instantly plunge the Lieutenant into the history of Strathclyde, so as to prove, in defiance of the first principles of logic and the Ten Commandments, that the girl was altogether right? Bell solved the difficulty in a novel fashion. She merely

repeated, in a low and careless voice, some lines from the chief favorite of all her songs—

"While sadly I roam, I regret my dear home,
Where lads and young lasses are making the
hay,
The merry bells ring, and the birds sweetly
sing,
And maidens and meadows are pleasant and
gay:
Oh! the oak and the ash, and the bonny ivy-
tree,
They grow so green in the North Countree!"

"But where is it?" says Tita. "You are always looking to the North and never getting there. Down in Oxford, you were all anxiety to get up to Wales. Once in Wales, you hurried us on to Westmoreland. Now you are in Westmoreland, you are still hankering after the North, and I want to know where you mean to stop? At Carlisle? Or Edinburgh? Or John o' Groat's?"

The little woman was becoming quite eloquent in her quiet and playful fashion, as she sat there with Bell's hand in hers. The girl looked rather embarrassed; and so, of course, the Lieutenant, always on the look-out for such a chance, must needs whip up his heavy artillery and open fire on Bell's opponent.

"No, Madame," he says, "why should you fix down that beautiful country to any place? Is it not better to have the dream always before you? You are too practical—"

Too practical!—This from an impatient young Uhlan to a gentle lady whose eyes are full of wistful visions and fancies from the morning to the night!

"—It is better that you have it like the El Dorado that the old travellers went to seek—always in front of them, but never just in sight. Mademoiselle is quite right not to put down her beautiful country in the map."

"Count von Rosen," says my Lady, with some show of petulance, "you are always proving Bell to be in the right. You never help me; and you know I never get any assistance from the quarter whence it ought to come. Now, if I were to say that I belonged to the North Country, you would never think of bringing all sorts of historical arguments to prove that I did."

"Madame," says the young man, with great modesty, "the reason is that you never need any such arguments, for you are always in the right at the first."

Here Bell laughs in a very malicious manner; for was not the retort provoked? My Lady asks the girl to watch the creeping of a shadow over the summit of Glaramara, as if that had anything to do with the history of Deira.

Well, the women owed us some explanation; for between them they had resolved upon our setting out for Penrith that afternoon. All the excursions we had planned in this beautiful neighborhood had to be abandoned, and for no ostensible reason whatever. That there must be some occult reason, however, for this odd resolve was quite certain; and the Lieutenant and myself were left to fit such keys to the mystery as we might think proper.

Was it really, then, this odd longing of Bell's to go northward, or was it not rather a secret consciousness that Arthur would cease to accompany us at Carlisle? The young man had remained behind at the hotel that morning. He had important letters to write, he said. A telegram had arrived for him while we were at breakfast; and he had remarked, in a careless way, that it was from Mr. Tatham, Katty's father. Perhaps it was. There is no saying what a reckless young fellow may not goad an elderly gentleman into doing; but if this message, as we were given to understand, had really something to do with Arthur's relations towards Katty, it was certainly an odd matter to arrange by telegraph.

As for the Lieutenant, he appeared to treat the whole affair with a cool indifference which was probably assumed. In private conversation he informed me that what Arthur might do in the way of marrying Miss Tatham or anybody else was of no consequence whatever to him.

"Mademoiselle will tell me my fate—that is enough," he said. "You think that I am careless,—yes? It is not so, except I am convinced your friend from Twickenham has nothing to do with it. No, he will not marry Mademoiselle—that is so clear that anyone can see it—but he may induce her, frighten her, complain of her, so that she will not marry me. Good. If it is so, I will know who has served me that way."

"You needn't look as if you meant to eat up the whole family," I say to him.

"And more," he continued, with even greater fierceness, "it has come to be too much, this. He shall not go beyond

Carlisle with us. I will not allow Mademoiselle to be persecuted. You will say I have no right—that it is no business of mine——”

“That is precisely what I do say. Leave the girl to manage her own affairs. If she wishes Arthur to go, she can do it with a word. Do you think there is no method of giving a young man his *conge* but by breaking his neck?”

“Oh, you think, then, that Mademoiselle wishes him to remain near her?”

A sudden cold reserve had fallen over the young fellow's manner. He stood there for a moment as if he calmly expected to hear the worst, and was ready to pack up his traps and betake himself to the South.

“I tell you again,” I say, “that I think nothing about it, and know nothing about it. But as for the decree of Providence which ordained that young people in love should become the pest and torture of their friends, of all the inscrutable, unjust, perplexing, and monstrous facts of life, this is about the worst. I will take a cigar from you, if you please.”

“That is all you care for—yes—a cigar,” says the young man, peevishly. “If the phaeton were to be smashed to pieces this afternoon—a cigar. If Mademoiselle were to go and marry this wretched fellow—again, a cigar. I do not think that you care more for anything around you than the seal which comes up and shakes hands with his keeper in the Zoological Gardens.”

“Got a light?”

“And yet I think it is possible you will get a surprise very soon. Yes! and will not be so indifferent. After Carlisle——”

“After Carlisle you come to Gretna Green. But if you propose to run away with Bell, don't take my horses—they are not used to hard work.”

“Run away! You do talk as if Mademoiselle were willing to run away with anybody. No, it is quite another thing.”

And here the Lieutenant, getting into the morose state—which always follows the fierceness of a lover—begins to pull about the shawls and pack them up.

Nevertheless, the eighteen miles between Keswick and Penrith proved one of the pleasantest drives of our journey. There was not much driving, it is true. We started at mid-day, and, having something

like five or six hours in which to get over this stretch of mountain and moorland road, we spent most of the time in walking, even Tita descending from her usual post to wander along the hedgerows and look down into the valley of the Greta. As the white road rose gradually from the plains of the lakes, taking us along the slopes of the mighty Saddleback, the view of the beautiful country behind us grew more extended and lovely. The clear silver day showed us the vast array of mountains in the palest of hues; and as white clouds floated over the hills and the gleaming surface of Derwentwater, even the shadows seemed pale and luminous. There was no mist, but a bewildering glare of light, that seemed at once to transpose and blend the clouds, the sky, the hills, and the lake. There was plenty of motion in the picture, too, for there was a south wind blowing light shadows of grey across the silver whiteness; but there was no louring mass of vapor lying up at the horizon, and all our evil anticipations of the previous day remained unfulfilled.

What a picturesque glen is that over which the great mass of Saddleback towers! We could hear the Greta rushing down the chasm through a world of light green foliage; and sometimes we got a glimpse of the stream itself—a rich brown, with dashes of white foam. Then you cross the river where it is joined by St. John's Beck; and as you slowly climb the side of Saddleback, the Greta becomes the Glenderamackin, and by and by you lose it altogether as it strikes off to the north. But there are plenty of streams about. Each gorge and valley has its beck; and you can hear the splashing of the water where there is nothing visible but masses of young trees lying warm and green in the sunshine.

And as for the wild flowers that grow here in a wonderful luxuriance of form and color, who can describe them? The Lieutenant was growing quite learned in English wild blossoms. He could tell the difference between Herb Robert and Ragged Robin, was not to be deceived into believing the rock-rose a buttercup, and had become profound in the study of the various speedwells. But he was a late scholar. Arthur had been under Bell's tuition years before. He knew all the flowers she liked best; he could pick them out at a distance without going through the

trouble of laboriously comparing them, as our poor Lieutenant had to do. You should have seen these two young men—with black rage in their hearts—engaged in the idyllic pastime of culling pretty blossoms for a fair maiden. Bell treated them both with a simple indifference that was begotten chiefly by the very definite interest she had in their pursuit. She was really thinking good deal more of her tangled and picturesque bouquet than of the intentions of the young men in bringing the flowers to her. She was speedily to be recalled from her dream.

At a certain portion of the way we came upon a lot of forget-me-nots, that were growing amid the roadside grass, meaning no harm. The pale turquoise blue of the flowers was looking up to the silver-white fleece of the sky, just as if there was some communion between the two that rude human hands had no right to break. Arthur made a plunge at them. He pulled up at once some half-dozen stalks and came back with them to Bell.

"Here," he said, with a strange sort of smile, "are some forget-me-nots for you. They are supposed to be typical of woman's constancy, are they not?—for they keep fresh about half-a-dozen hours."

Bell received the flowers without a trace of surprise or vexation in her manner; and then, with the most admirable self-possession, she turned to the Lieutenant, separated one of the flowers from the lot, and said, with a great gentleness and calmness,—

"Count von Rosen, do you care to have one of these? You have very pretty songs about the forget-me-not, in Germany."

I believe that young fellow did not know whether he was dead or alive at the moment when the girl addressed him thus. For a single second a flash of surprise and bewilderment appeared in his face, and then he took the flower from her and said, looking down as if he did not wish any of us to see his face,—

"Mademoiselle, thank you."

But almost directly afterwards he had recovered himself. With an air as if nothing had happened, he pulled out his pocket-book, most carefully and tenderly put the flower in it, and closed it again. Arthur, with his face as hot as fire, had begun to talk to Tita about Threlkeld Hall.

It was a pretty little scene to be enacted on this bright morning, on a grassy way-side in Cumberland, with all the lakes and mountains of Westmoreland for a blue and silvery background. But, after all, of what importance was it? A girl may hand her companion of the moment a flower without any deadly intent? How was anyone to tell, indeed, that she had so turned to the Lieutenant as a retort to Arthur's not very courteous remark? There was no appearance of vexation in her manner. On the contrary, she turned and gave Von Rosen this paltry little forget-me-not and made a remark about German songs, just as she might have done at home in Surrey to any of the young fellows who come dawdling about the house, wondering why such a pretty girl should not betray a preference for somebody. Even as a punishment for Arthur's piece of impudence, it might not have any but the most transitory significance. Bell is quick to feel any remark of the kind; and it is just possible that at the moment she may have been stung into executing this pretty and pastoral deed of vengeance.

But the Lieutenant, at all events, was persuaded that something of mighty import had just occurred on the picturesque banks of this Cumberland stream. He hung about Bell for some time, but seemed afraid to address her, and had ceased to offer her flowers. He was permitted to bring her a sunshade, however, and that pleased him greatly. And thereafter he went up to the horses, and walked by their heads, and addressed them in very kindly and soothing language, just as if they had done him some great service.

Arthur came back to us.

"It looks rather ridiculous," he said, abruptly, "to see the procession of this horse and dog-cart following your phaeton. Hadn't I better drive on to Penrith?"

"The look of it does not matter here, surely," says Bell. "We have only met two persons since we started, and we shan't find many people up in this moorland we are coming to."

"Oh, as you please," says the young man, a trifle mollified. "If you don't mind, of course I don't."

Presently he said, with something of an effort,—

"How long is your journey to last altogether?"

"I don't know," I say to him. "We shall be in Edinburgh in two or three days, and our project of driving thither accomplished. But we may spend a week or two in Scotland after that."

"Count von Rosen is very anxious to see something of Scotland," says Bell, with the air of a person conveying information.

I knew why Count von Rosen was so anxious to see something of Scotland—he would have welcomed a journey to the North Pole if only he was sure that Bell was going there too. But Arthur said, somewhat sharply,—

"I am glad I shall escape the duty of dancing attendance on a stranger. I suppose you mean to take him to the Tower and to Madame Tussaud's when you return to London?"

"But won't you come on with us to Edinburgh, Arthur?" says Bell, quite amiably.

"No, thank you," he says; and then, turning to me, "How much does it cost to send a horse and trap from Carlisle to London?"

"From Edinburgh it costs 10*l.* 5*s.*, so you may calculate."

"I suppose I can get a late train to-morrow night for myself?"

"There is one after midnight."

He spoke in a gloomy way, that had nevertheless some affectation of carelessness in it. Bell again expressed her regret that he could not accompany us to Edinburgh; but he did not answer.

* We were now about to get into our respective vehicles, for before us lay a long stretch of high moorland road, and we had been merely idling the time away during the last mile or two.

"Won't you get into the dog-cart for a bit, Bell?" says Arthur.

"Oh yes, if you like," says Bell, good-naturedly.

The Lieutenant, knowing nothing of this proposal, was rather astonished when, after having called to him to stop the horses, we came up and Bell was assisted into the dog-cart, Arthur following and taking the reins. The rest of us got into the phaeton; but, of course, Arthur had got the start of us, and went on in front.

"How far on is Gretna Green?" asks my Lady in a low voice.

The Lieutenant scowled, and regarded

the two figures in front of us in anything but an amiable mood.

"You do not care much for her safety to entrust her to that stupid boy," he remarks.

"Do you think he will really run away with her?" says Tita.

"Run away!" repeats the Lieutenant, with some scorn; "if he were to try that, or any other foolish thing, do you know what you would see? You would see Mademoiselle take the reins from him, and go where she pleased in spite of him. Do you think that she is controlled by that pitiful fellow?"

Whatever control Bell possessed, there was no doubt at all that Arthur was taking her away from us at a considerable pace. After that stretch of moorland the road got very hilly; and no man who is driving his own horses likes to run them up steep ascents for the mere pleasure of catching a runaway boy and his sweetheart. In the ups and downs of this route we sometimes lost sight of Bell and Arthur altogether. The Lieutenant was so wroth that he dared not speak. Tita grew a trifle anxious, and at last she said,—

"Won't you drive on and overtake these young people? I am sure Arthur is forgetting how hilly the road is."

"I don't. Arthur is driving somebody else's horse, but I can't afford to ill-treat my own in order to stop him."

"I am sure your horses have not been overworked," says the Lieutenant; and at this moment, as we get to the crest of a hill, we find that the two fugitives are on the top of the next incline.

"Hillo! Hei! Heh!"

Two faces turn round. A series of pantomimic gestures now conveys my Lady's wishes, and we see Arthur jump down to the ground, assist Bell to alight, and then she begins to pull some grass for the horse.

When we, also, get to the top of this hill, lo! the wonderful sight that spreads out before us! Along the northern horizon stands a pale line of mountains, and as we look down into the great plain that lies between, the yellow light of the sunset touches a strange sort of mist, so that you would think there lay a broad estuary or a great arm of the sea. We ourselves are in shadow, but all the wide landscape before us is bathed in golden fire and smoke; and up there, ranged along the sky, are the pale

hills that stand like phantoms rising out of another world.

Bell comes into the phaeton. We set out again along the hilly road, getting comforted by and by by the landlord of a wayside inn, who says, "Ay, the road goes pretty mooch doon bank a' t' waay to Penrith, after ye get a mile forrit." Bell cannot tell us whether this is pure Cumbrian, or Cumbrian mixed with Scotch, but the Lieutenant insists that it does not much matter, for "forrit" is very good Frisian. The chances are that we should have suffered another sermon on the German origin of our language, but that signs of a town became visible. We drove in from the country highways in the gathering twilight. There were lights in the streets of Penrith, but the place itself seemed to have shut up and gone to bed. It was but half-past eight; yet nearly every shop was shut, and the inn into which we drove had clearly got over its day's labor. If we had asked for dinner this hour, the simple folks would probably have laughed at us; so we called it supper, and a very excellent supper it was.

CHAPTER XXVIII.

"ADE!"

"Edwin, if right I read my song,
With slighted passion paced along,
All in the moony light;
'Twas near an old enchanted court,
Where sportive fairies made resort
To revel out the night."

"I AM SO sorry you can't come further with us than Carlisle," says Queen Titania to Arthur, with a great kindness for the lad shining in her brown eyes.

"Duty calls me back—and pleasure, too," he says, with rather a melancholy smile. "You will receive a message from me, I expect, shortly after I return. Where will letters find you in Scotland?"

This was rather a difficult question to answer; but it took us away from the dangerous subject of Arthur's intentions, about which the less said at that moment the better. The Lieutenant professed a great desire to spend two or three weeks in Scotland; and Bell began to sketch out phantom tours, whisking about from Loch Lubraig to Loch Long, cutting round the Mull of Cantire, and coming back from Oban to the Crinan in a surprising manner.

"And, Mademoiselle," says he, "perhaps to-morrow, when you get into Scotland, you will begin to tell me something of the Scotch songs, if it does not trouble you. I have read some—yes—of Burns's songs, mostly through Freiligrath's translations, but I have not heard any sung, and I know that you know them all. Oh yes, I liked them very much—they are good, hearty songs, not at all melancholy; and an excellent fellow of that country I met in the war—he was a correspondent for some newspaper and he was at Metz, but he was as much of a soldier as any man of us—he told me there is not any such music as the music of the Scotch songs. That is a very bold thing to say, you know, Mademoiselle; but if you will sing some of them, I will give you my frank opinion."

"Very well," says Mademoiselle, with a gracious smile, "but I think I ought to begin to-day, for there is a great deal of ground to get over."

"So much the better," says he.

"But if you young people," says Queen Tita, "who are all bent on your own pleasure, would let me make a suggestion, I think I can put your musical abilities to a better use. I am going to give a concert as soon as I get home, for the benefit of our Clothing Club; and I want you to undertake, Count von Rosen, to sing for us two or three German songs—Körner's war songs, for example."

"Oh, with great pleasure, Madame, if you will not all laugh at my singing."

Unhappy wretch—another victim! But it was a mercy she asked him only for a few songs, instead of hinting something about a contribution. That was probably to come.

"Bell," says my Lady, "do you think we ought to charge twopence this time?"

On this tremendous financial question Bell declined to express an opinion, beyond suggesting that the people, if they could only be induced to come, would value the concert all the more. A much more practical proposal, however, is placed before this committee, now assembled in Penrith. At each of these charity-concerts in our schoolroom, a chamber is set apart for the display of various viands and an uncommon quantity of champagne, devoted to the use of the performers, their friends, and a few special guests. It is suggested that the expense of this enter-

tainment should not always fall upon one person; there being several householders in the neighborhood who were much more able to afford such promiscuous banquets.

"I am sure," says my Lady, with some emphasis, "that I know several gentlemen who would only be too eager to come forward and send these refreshments, if they only knew you were making such a fuss about it."

"My dear," I say, humbly, "I wish you would speak to them on this subject."

"I wouldn't demean myself so far," says Tita, "as to ask for wine and biscuits from my neighbors."

"I wish these neighbors wouldn't drink so much of my champagne."

"But it is a charity; why should you grumble?" says the Lieutenant.

"Why? These abandoned ruffians and their wives give five shillings to the charity, and come and eat and drink ten shillings worth of my food and wine. That is why."

"Never mind," says Bell, with her gentle voice; "when Count von Rosen comes to sing we shall have a great audience, and there will be a lot of money taken at the door, and we shall be able to clear all expenses and pay you, too, for the champagne."

"At sevenpence-halfpenny a bottle, I suppose?"

"I did not think you got it so cheap," says Tita, with a pleasing look of innocence; and therewith the young folks began to laugh, as they generally do when she says anything specially impertinent.

Just before starting for Carlisle, we happened to be in the old churchyard of Penrith, looking at the pillars which are supposed to mark the grave of a giant of old, and trying to persuade ourselves that we saw something like Runic carvings on the stones. There came forward to us a strange-looking person, who said suddenly—

"God bless you!"

There was no harm in that, at all events, but presently he began to attach himself to Arthur, and insisted on talking to him; while, whenever the young man seemed inclined to resent this intrusion, the mysterious stranger put in another "God bless you!" so as to disarm criticism. We speedily discovered that this person was a sort of whiskified Old Mortality, who claimed to have cut all manner of tombstones standing around; and to Arthur, whom he specially affected, he continually

appealed with "Will that do, eh? I did that—will that do, eh?" The young man was not in a communicative mood, to begin with; but the persecution he now suffered was like to have driven him wild. In vain he moved away: the other followed him. In vain he pretended not to listen: the other did not care. He would probably have expressed his feelings warmly, but for the pious ejaculation which continually came in; and when a man says "God bless you," you can't with decency wish him the reverse. At length, out of pure compassion, the Lieutenant went over to the man, and said—

"Well, you are a very wicked old gentleman, to have been drinking at this time in the morning."

"God bless you!"

"Thank you. You have given to us your blessing all round: now will you kindly go away?"

"Wouldn't you like to see a bit of my cutting, now, eh?"

"No, I wouldn't; I would like to see you go home and get a sleep and get up sober."

"God bless you!"

"The same to you. Good-bye"—and behold! Arthur was delivered, and returned, blushing like a girl, to the women, who had been rather afraid of this half-tipsy or half-silly person, and remained at a distance.

You may be sure that when we were about to start from Penrith, the Lieutenant did not forget to leave out Bell's guitar-case. And so soon as we were well away from the town, and bowling along the level road that leads up to Carlisle, the girl put the blue ribbon round her shoulder and began to cast about for a song. Arthur was driving close behind us—occasionally sending on the cob so as to exchange a remark or two with my Lady. The wheels made no great noise, however; and in the silence lying over the shining landscape around us, we heard the clear, full, sweet tones of Bell's voice as well as if she had been singing in a room,

"Behind yon hills where Lugar flows—"

That was the first song that she sung; and it was well the Lieutenant was not a Scotchman, and had never heard the air as it is daily played on the Clyde steamers by wandering fiddlers.

"I don't mean to sing all the songs,"

says Bell, presently; "I shall only give you a verse or so of each of those I know, so that you may judge of them. Now this is a fighting song;" and with that she sung with fine courage—

"Here's Kenmure's health in wine, Willie!
Here's Kenmure's health in wine!
There ne'er was a coward o' Kenmure's blood,
Nor yet o' Gordon's line!
Oh, Kenmure's lads are men, Willie!
Oh, Kenmure's lads are men!
Their hearts and swords are metal true,
And that their foes shall ken!"

How was it that she always sang these wild, rebellious, Jacobite songs with so great an accession of spirit? Never in our southern home had she seemed to care anything about them. There, the only Scotch songs she used to sing for us were the plaintive laments of unhappy lovers, and such-like things; whereas now she was all for blood and slaughter, for the gathering of the clans, and the general destruction of law and order. I don't believe she knew who Kenmure was. As for the Braes o' Mar, and Callander and Airlie, she had never seen one of these places. And what was this "kane" of which she sang so proudly?—

"Hark the horn!
Up i' the morn;
Bonnie lad, come to the march to-morrow!
Down the glen,
Grant and his men,
They shall pay kane to the King the morn!
Down by Knockhaspie,
Down by Gillespie,
Many a red runt nods the horn;
Waken not Callum,
Rouky, nor Allan—
They shall pay kane to the King the morn!"

"Why, what a warlike creature you have become, Bell!" says Queen Titania. "Ever since you sang those songs of Maria, with Count von Rosen as the old sergeant, you seem to have forgotten all the pleasant old ballads of melancholy and regret, and taken to nothing but fire and sword. Now, if you were to sing about Logan braes, or Lucy's Flitting, or Annie's Tryst——"

"I am coming to them," says Bell, meekly.

"No, Mademoiselle," interposes the Lieutenant, "please do not sing any more just now. You will sing again, in the afternoon, yes? But at present you will harm your voice to sing too much."

Now she had only sung snatches of three songs. What business had he to in-

terfere, and become her guardian? Yet you should have seen how quietly and naturally she laid aside the guitar as soon as he had spoken, and how she handed it to him to put in the case: my Lady looked hard at her gloves, which she always does when she is inwardly laughing and determined that no smile shall appear on her face.

It was rather hard upon Arthur that he should be banished into that solitary trap; but he rejoined us when we stopped at High Heskett to bait the horses, and have a snack of something for lunch. What a picture of desolation is the White Ox of this village! Once upon a time this broad road formed part of the great highway leading towards the north; and here the coaches stopped for the last time before driving into Carlisle. It is a large hostelry; but it had such an appearance of loneliness and desertion about it, that we stopped at the front door (which was shuf) to ask whether they could put the horses up. An old lady, dressed in black, and with a worn and sad face, appeared. We could put the horses up, yes. As for luncheon, we could have ham and eggs. The butcher only came to the place twice a week; and as no traveller stopped here now, no butcher's meat was kept on the premises. We went into the great stables; and found an ostler who looked at us with a wonderful astonishment shining in his light blue eyes. Looking at the empty stalls, he said he could remember when forty horses were put up there every day. It was the railways that had done it.

We had our ham and eggs in a large and melancholy parlor, filled with old-fashioned pictures and ornaments. The elderly servant-woman who waited on us told us that a gentleman had stopped at the inn on Monday night before; but it turned out that he was walking to Carlisle, that he had got afraid of two navvies on the road, and that he therefore had taken a bed here. Before him, no one had stopped at the inn since Whitsuntide. It was all because of them railways.

We hastened away from this doleful and deserted inn, so soon as the horses were rested. They had easy work of it for the remainder of the day's journey. The old coach-road is here remarkably broad, level, and well-made, and we bowled along the solitary highway as many a vehicle had done in bygone years. As we drove into

"merry Carlisle," the lamps were lit in the twilight, and numbers of people in the streets. For the convenience of Arthur, we put up at an hotel abutting on the railway station, and then went off to stable the horses elsewhere.

It was rather a melancholy dinner we had in a corner of the great room. The gloom that overspread Arthur's face was too obvious. In vain the Lieutenant talked profoundly to us of the apple-legend of Tell in its various appearances (he had just been cribbing his knowledge from Professor Buchheim's excellent essay), and said he would go with my Lady next morning to see the famous market-place where William of Cloudelee, who afterwards shot the apple from off his son's head, was rescued from justice by two of his fellow-outlaws. Tita was far more concerned to see Arthur of somewhat better spirits on this the last night of his being with us. On our sitting down to dinner, she had said to him, with a pretty smile—

"King Arthur lives in merry Carlisle,
And seemly is to see;
And there with him Queen Guenever,
That bride so bright of blee."

But was it not an unfortunate quotation, however kindly meant? Queen Guenever sat there—as frank, and gracious, and beautiful as a queen or a bride might be—but not with him. That affair of the little blue flower on the banks of the Greta was still rankling in his mind.

He bore himself bravely, however. He would not have the women remain up to see him away by the 12.45 train. He bade good-bye to both of them without wincing, and looked after Bell for a moment as she left; and then he went away into a large and gloomy smoking-room, and sat down there in silence. The Lieutenant and I went with him. He was not inclined to speak; and at length Von Rosen, apparently to break the horrible spell of the place, said—

"Will they give the horse any corn or water on the journey?"

"I don't think so," said the lad, absently, "but I have telegraphed for a man to be at the station and take the cob into the nearest stables."

And with that he forced himself to talk of some of his adventures by the way, while as yet he was driving by himself; though we could see he was thinking of something

very different. At last the train from the north came in. He shook hands with us with a fine indifference; and we saw him bundle himself up in a corner of the carriage, with a cigar in his mouth. There was nothing tragic in his going away; and yet there was not in all England a more wretched creature than the young man who thus started on his lonely night-journey: and I afterwards heard that, up in the railway-hotel at this moment, one tender heart was still beating a little more quickly at the thought of his going, and two wakeful eyes were full of unconscious tears.

CHAPTER XXIX.

OVER THE BORDER.

"And here awhile the Muse,
High hovering o'er the broad cerulean scene,
Sees Caledonia in romantic view:
Her airy mountains, from the waving main,
Invested with a keen, diffusive sky,
Breathing the soul acute; her forests huge
Incult, robust, and tall, by Nature's hand
Planted of old; her azure lakes between
Poured out expensive, and of watery wealth
Full; winding, deep, and green, her fertile vales;
With many a cool translucent brimming flood
Washed lovely from the Tweed (pure parent stream
Whose pastoral banks first heard my Doric reed,
With sylvan Gled, thy tributary brook.)"

THAT next morning in Carlisle—as we walked about the red old city that is set amid beautiful green meadows interlaced with streams—there was something about Queen Titania's manner that I could not understand. She arrogated to herself a certain importance. She treated ordinary topics of talk with disdain. She had evidently become possessed of a great secret. Now everyone knows that the best way to discover a secret is to let the owner of it alone; if it is of great importance, she is sure to tell it to you, and if it is of no importance, your ignorance of it won't hurt you.

We were up in that fine old castle, leaning on the parapets of red sandstone and gazing away up to the north, where a line of Scotch hills lay on the horizon. That is a pretty landscape that lies around Carlisle Castle—the bright and grassy meadows through which the Eden winds, the woods and heights of the country beyond, the far stretches of sand at the mouth of the Solway, and the blue line of hills telling of the wilder regions of Scotland.

In the courtyard below us we can see the Lieutenant instructing Bell in the art of

fortification. My Lady looks at them for a moment, and says—

"Bell is near her North country at last."

There is at all events nothing very startling in that disclosure. She pauses for a moment or two, and is apparently regarding with wistful eyes the brilliant landscape around, across which dashes of shadow are slowly moving from the west. Then she adds—

"I suppose you are rather puzzled to account for Arthur's coming up to see us this last time."

"I never try to account for the insane actions of young people in love."

That is your own experience, I suppose?" she says, daintily.

"Precisely so—of you. But what is this about Arthur?"

"Don't you really think it looks absurd—his having come to join us a second time for no apparent purpose whatever?"

"Proceed."

"Oh," she says, with some little *hauteur*, "I am not anxious to tell you anything."

"But I am dying to hear. Have you not marked my impatience ever since we set out this morning?"

"No, I haven't. But I will tell you all the same, if you promise to say not a word of it to Count von Rosen."

"I? Say anything to the Lieutenant? The man who would betray the confidences of his wife—except when it suited his own purpose— But what have you got to say about Arthur?"

"Only this—that his coming to see us was not so aimless as it might appear. Yesterday he asked Bell definitely if she would marry him."

She smiles—with an air of pride. She knows she has produced a sensation.

"Would you like to know where? In that old inn at High Hesket—where they seem to have been left alone for a minute or two. And Bell told him frankly that she could not marry him."

Think of it! In that deserted old inn, with its forsaken chambers and empty stalls, and occasional visits from a wandering butcher, a tragedy had been enacted so quietly that none of us had known. If folks were always to transact the most important business of their lives in this quiet, undramatic, unobserved way, whence would come all the material for our pictures, and plays, and books? These young people, so far as we knew, had never

struck an attitude, nor uttered an exclamation; for, now that one had time to remember, on our entering into the parlor where Bell and Arthur had been left, she was quietly looking out of the window, and he came forward to ask how many miles it was to Carlisle. They got into the vehicles outside as if nothing had happened. They chatted as usual on the road to Carlisle. Nay, at dinner, how did those young hypocrites manage to make believe that they were on their old footing, so as to deceive us all?

"My dear," I say to her, "we have been robbed of a scene."

"I am glad there was no scene. There is more likely to be a scene when Arthur goes back and tells Dr. Ashburton that he means to marry Katty Tatham. He is sure to do that; and you know the Doctor was very much in favor of Arthur's marrying Bell."

"Well, now, I suppose, all that is wanted for the completion of your diabolical project is that Bell should marry that young Prussian down there—who will be arrested in a minute or two if he does not drop his inquiries."

Tita looks up with a stare of well-affected surprise.

"That is quite another matter, I assure you. You may be quite certain that Bell did not refuse Count von Rosen before without some very good reason; and the mere fact of Arthur's going away does not pledge her a bit. No—quite the contrary. He would be very foolish if he asked her at this moment to become his wife. She is very sorry about Arthur, and so am I; but I confess that when I learned his case was hopeless, and that I could do nothing to help him, I was greatly relieved. But don't breathe a word of what I have told you to Count von Rosen—Bell would never forgive me if it were to reach his ears. But oh!" says Queen Tita, almost clasping her hands, while a bright light beams over her face, "I *should* like to see those two married. I am sure they are so fond of each other. Can you doubt it, if you look at them for a moment or two—"

But they had disappeared from the courtyard below. Almost at the same moment that she uttered these words, she instinctively turned, and lo! there were Bell and her companion advancing to join us. The poor little woman blushed dreadfully

in spite of all her assumption of gracious self-possession; but it was apparent that the young folks had not overheard, and no harm was done.

At length we started for Gretna. There might have been some obvious jokes going upon this subject, had not some recollection of Arthur interfered. Was it because of his departure, also, that the Lieutenant forbore to press Bell for the Scotch songs that she had promised him? Or was it not rather that the brightness and freshness of this rare forenoon were in themselves sufficient exhilaration? We drove down by the green meadows, and over the Eden bridge. We clambered up the hill opposite, and drove past the suburban villas there. We had got so much accustomed to sweet perfumes floating to us from the hedgerows and the fields, that we at first did not perceive that certain specially pleasant odors were the product of some large nurseries close by. Then we got out to that "shedding" of the roads, which marks the junction of the highways coming down from Glasgow and Edinburgh; and here we chose the former, which would take us through Gretna and Moffat, leaving us to strike eastward towards Edinburgh afterwards.

The old mail-coach road to the north is quite deserted now, but it is a pleasant road for all that, well-made and smooth, with tracts of grass along each side, and tall and profuse hedges that only partially hide from view the dusky northern landscape with its blue line of hills beyond. Mile after mile, however, we did not meet a single creature on this deserted highway; and when at length we reached a solitary turnpike, the woman in charge thereof regarded us with a look of surprise, as if we were a party of runaways who had blundered into the notion that Gretna-green marriages were still possible.

The Lieutenant, who was driving, got talking with the woman about these marriages, and the incidents that must have occurred at this very turnpike, and of the stories in the neighborhood about that picturesque and gay old time. She—with her eyes still looking towards our Bell, as if she suspected that the young man had quite an exceptional interest in talking of marriages—told us some of her own reminiscences with a great deal of good humor; but it is sad to think that these anecdotes were chiefly of quarrels and sep-

arations—some of them occurring before the happy pair had crossed the first bridge on their homeward route. Whether these stories were not edifying, or whether a great bank of clouds, coming up from the north against the wind, looked very ominous, Bell besought her companion to drive on; and so on we went.

It was a lonely place in which to be caught by a thunderstorm. We came to the river Esk, and found its shallow waters flowing down a broad and shingly channel, leaving long islands of sand between. There was not a house in sight—only the marshy meadows, the river-beds, and the low flats of sand stretching out to the Solway Frith. Scotland was evidently bent on giving us a wet welcome. From the hills in the north those black masses of vapor came crowding up, and a strange silence fell over the land. Then a faint glimmer of red appeared somewhere; and a low noise was heard. Presently, a long narrow streak of forked lightning went darting across the black background, there was a smart roll of thunder, and then all around us the first clustering of heavy rain was heard among the leaves. We had the hood put up hastily. Bell and Tita were speedily swathed in shawls and water-proofs; and the Lieutenant sent the horses on at a good pace, hoping to reach Gretna Green before we should be washed into the Solway. Then began the wild play of the elements. On all sides of us the bewildering glare of steel-blue seemed to flash about, and the horses, terrified by the terrific peals of thunder, went plunging on through the torrents of rain.

"Mademoiselle," cried the Lieutenant, with the water streaming over his face, and down his great beard, "your Westmoreland rain,—it was nothing to this."

Bell sat mute and patient, with her face down to escape the blinding torrents. Perhaps, had we crossed the Border in beautiful weather, she would have got down from the phaeton, and pulled some pretty flower to take away with her as a memento; but now we could see nothing, hear nothing, think of nothing, but the crashes of the thunder, the persistent waterfall, and those sudden glares that from time to time robbed us of our eyesight for several seconds. Some little time before reaching the river Sark, which is here the boundary line between the two countries, we passed a

small wayside inn; but we did not think of stopping there, when Gretna promised to afford us more certain shelter. We drove on and over the Sark. We pulled up for a moment at the famous toll-house.

"We are over the Border!" cried Bell as we drove on again; but what of Scotland could she see in this wild storm of rain?

Surely no runaway lover was ever more glad to see that small church perched up on a hillock among trees than we were when we came in sight of Gretna. But where was the inn? There were a few cottages by the wayside, and there was one woman who kindly came out to look at us. No sooner had the Lieutenant heard that there was no inn in the place, than, without a word—but with an awful look of determination on his face—he turned the horses clean round and set them off at a gallop down the road to the Sark.

"Perhaps they can't take us in at that small place," said my Lady.

"They must take us in," said he, between his teeth; and with that we found ourselves in England again.

He drove us up to the front of the square building. With his whip-hand he dashed away the rain from his eyes and moustache, and called aloud. Lo! what a strange vision was that which appeared to us, in this lonely place, in the middle of a storm? Through the mist of the rain we beheld the doorway of the inn suddenly becoming the frame of a beautiful picture; and the picture was that of a fair-haired and graceful young creature of eighteen, in a costume of pearly grey touched here and there with lines of blue, who regarded us with a winning expression of wonder and pity in her large and innocent eyes. Her appearance there seemed like a glimmer of sunlight shining through the rain; and a second or two elapsed before the Lieutenant could collect himself so far as to ask whether this angel of deliverance could not shelter us from the rude violence of the storm.

"We have no ostler," says the young lady, in a timid way.

"Have you any stables?" says the young man.

"Yes, we have stables—shall I show them to you?"

"No—no!" he cries, quite vehemently. "Don't you come out into the rain—not at all! I will find them out very well my-

self; but you must take in the ladies here, and get them dry."

And when we had consigned Bell and Tita to the care of the young lady, who received them with a look of much friendliness and concern in her pretty face, we went off and sought out the stables.

"Now, look here, my good friend," says Von Rosen, "we are both wet. The horses have to be groomed—that is very good work to dry one person; and so you go into the house, and change your clothes, and I will see after the horses, yes?"

"My young friend, it is no use your being very complaisant to me," I observe to him. "I don't mean to intercede with Bell for you."

"Would you intercede with that beautiful young lady of the inn for me? Well, now, that is a devil of a language, yours. How am I to address a girl who is a stranger to me, and to whom I wish to be respectful? I cannot call her *Mademoiselle*, which is only an old nickname that *Mademoiselle* used to have in Bonn, as you know. You tell me I cannot address a young lady as 'Miss,' without mentioning her other name, and I do not know it. Yet I cannot address her with nothing, as if she were a servant. Tell me now—what does an English gentleman say to a young lady whom he may assist at a railway station abroad, and does not know her name? And what, if he does not catch her name, when he is introduced in a house? He cannot say *Mademoiselle*. He cannot say *Fräulein*. He cannot say *Miss*."

"He says nothing at all."

"But that is rudeness—it is awkward to you not to be able to address her."

"Why are you so anxious to know how to talk to this young lady?"

"Because I mean to ask her if it is impossible that she can get a little corn for the horses."

It was tiresome work—that, getting the horses out of the wet harness, and grooming them without the implements of grooming. Moreover, we could find nothing but a handful of hay; and it was fortunate that the nose-bags we had with us still contained a small allowance of oats and beans.

What a comfortable little family-party, however, we made up in the large, warm kitchen! Tita had struck up a great friendship with the gentle and pretty daughter of the house; the old lady, her

mother, was busy in having our wraps and rugs hung up to dry before the capacious fire-place; and the servant-maid had begun to cook some chops for us. Bell, too—who might have figured as the elder sister of this flaxen-haired and frank-eyed creature, who had appeared to us in the storm—was greatly interested in her; and was much pleased to hear her distinctly and proudly claim to be Scotch, although it was her misfortune to live a short distance on the wrong side of the Border. And with that the two girls fell to talking about Scotch and Cumbrian words; but here Bell had a tremendous advantage, and pushed it to such an extreme, that her opponent, with a pretty blush and a laugh, said that she did not know the English young ladies knew so much of Scotch. And when Bell protested that she would not be called English, the girl only stared. You see, she had never had the benefit of hearing the Lieutenant discourse on the history of Strathclyde.

Well, we had our chops and what not in the parlor of the inn; but it was remarkable how soon the Lieutenant proposed that we should return to the kitchen. He pretended that he was anxious to learn Scotch; and affected a profound surprise that the young lady of the inn should not know the meaning of the word "spurtle." When we went into the kitchen, however, it was to the mamma that he addressed himself chiefly; and behold! she speedily revealed to the young soldier that she was the widow of one of the Gretna priests. More than that I don't mean to say. Some of you young fellows who may read this might perhaps like to know the name and the precise whereabouts of the fair wildflower that we found blooming up in these remote solitudes; but neither shall be revealed. If there was any one of us who fell in love with the sweet and gentle face it was Queen Tita; and I know not what compacts about photographs may not have been made between the two women.

Meanwhile the Lieutenant had established himself as a great favorite with the elderly lady, and by and by she left the kitchen, and came back with a sheet of paper in her hand, which she presented to him. It turned out to be one of the forms of the marriage-certificates used by her husband in former days; and for curiosity's sake, I append it below, suppressing the name of the priest, for obvious reasons.

KINGDOM OF SCOTLAND,

COUNTY OF DUMFRIES,

Parish of Gretna.

These are to Certify to all whom these presents shall come that * * * from the parish of * * * in the County of * * * and * * * from the parish of * * * in the County of * * * being now here present, and having declared themselves single persons, were this day Married after the manner of the Laws of the Church of England, and agreeable to the Laws of Scotland; as Witness our hands, Allison's Bank Toll-house, this * * * day of * * * 18 .

Before * * *

Witnesses, {

"That is a dangerous paper to carry about wi' ye," said the old woman, with a smile.

"Why so?" inquired the Lieutenant.

"Because ye might be tempted to ask a young leddy to sign her name there;" and what should prevent that innocent-eyed girl turning just at this moment to look with a pleased smile at our Bell? The Lieutenant laughed, in an embarrassed way, and said the rugs might as well be taken from before the fire, as they were quite dry now.

I think none of us would have been sorry to have stayed the night in this homely and comfortable little inn, but we wished to get on to Lockerbie, so as to reach Edinburgh in other two days. Moreover, the clouds had broken, and there was a pale glimmer of sunshine appearing over the dark green woods and meadows. We had the horses put into the phaeton again, and with many a friendly word of thanks to the good people who had been so kind to us, we started once more to cross the Border.

"And what do you think of the first Scotch family you have seen?" says Queen Tita to the Lieutenant, as we cross the bridge again.

"Madame," he says, quite earnestly, "I did dream for a moment I was in Germany again—everything so friendly and homely, and the young lady not too proud to wait on you, and help the servant in the cooking; and then, when that is over, to talk to you with good education, and intelligence, and great simpleness and frankness. Oh, that is very good—

whether it is Scotch, or German, or any other country—the simple ways, and the friendliness, and the absence of all the fashions and the hypocrisy.”

“That young lady was very fashionably dressed, Count von Rosen,” says Tita with a smile.

“That is nothing, Madame. Did she not bring in to us our dinner, just as the daughter of the house in a German country inn would do, as a compliment to you, and not to let the servant come in? Is it debasement, do you think? No. You do respect her for it; and you yourself, Madame, you did speak to her as if she were an old friend of yours—and why not, when you find people like that, honest and good-willing towards you?”

What demon of mischief was it that prompted Bell to sing that song as we drove through the darkening woods in this damp twilight? The Lieutenant had just got out her guitar for her when he was led into these fierce statements quoted above. And Bell, with a great gravity, sang—

“Farewell to Glenshalloch, a farewell for ever,
Farewell to my wee cot that stands by the river;
The fall is loud-sounding in voices that vary,
And the echoes surrounding lament with my Mary.”

This much may be said, that the name of the young lady of whom they had been speaking was also Mary; and the Lieutenant, divining some profound sarcasm in the song, began to laugh and protest that it was not because the girl was pretty and gentle that he had discovered so much excellence in the customs of Scotch households. Then Bell sang once more—as the sun went down behind the woods, and we heard the streams murmuring in deep valleys by the side of the road—

“Hame, hame, hame, O hame fain would I be,
Hame, hame, hame, to my ain countree;
There’s an eye that ever weeps, and a fair face
will be fain,
As I pass through Annan water, wi’ my bonny
bands again!”

We drive into the long village of Ecclefechan, and pause for a moment or two in front of the Bush Inn to let the horses have a draught of water and oatmeal. The Lieutenant, who has descended to look after this prescription, now comes out from the inn bearing a small tray with some tumblers on it.

“Madame,” said he, “here is Scotch

whisky—you must all drink it, for the good of the country.”

“And of ourselves,” says one of us, calling attention to the chill dampness of the night-air.

My lady pleaded for a bit of sugar, but that was not allowed; and when she had been induced to take about a third of the Lieutenant’s preparation, she put down the glass with an air of having done her duty. As for Bell, she drank pretty nearly half the quantity; and the chances are that if the Lieutenant had handed her prussic acid, she would have felt herself bound, as a compliment, to have accepted it.

Darker and darker grew the landscape as we drove through the thick woods. And when, at last, we got into Lockerbie there was scarcely enough light of any sort to show us that the town, like most Scotch country towns and villages, was white-washed. In the inn at which we stopped, appropriately named the Blue Bell, the Lieutenant once more remarked on the exceeding homeliness and friendliness of the Scotch. The landlord simply adopted us, and gave us advice in a grave, paternal fashion, about what we should have for supper. The waiter who attended us took quite a friendly interest in our trip; and said he would himself go and see that the horses which had accomplished such a feat were being properly looked after. Bell was immensely proud that she could understand one or two phrases that were rather obscure to the rest of the party; and the Lieutenant still further delighted her by declaring that he wished we could travel for months through this friendly land, which reminded him of his own country. Perhaps the inquisitive reader having learned that we drank Scotch whisky at the Bush Inn of Ecclefechan, would like to know what we drank at the Blue Bell of Lockerbie. He may address a letter to Queen Titania on that subject, and he will doubtless receive a perfectly frank answer.

[*Note by Queen Titania.*—“I do not see why our pretty Bell should be made the chief subject of all the foregoing revelations. I will say this, that she and myself were convinced that we never saw two men *more jealous of each other* than those two were in that inn near the Border. The old lady was *quite amused by it*; but I do not think the girl herself noticed it, for she is a very innocent and gentle young thing, and has probably had no experience of such *absurdities*. But I would like to ask who first mentioned that subject

of photographs; and who proposed to send her a whole series of engravings; and who offered to send her a volume of German songs. If Arthur had been there, we should have had the laugh all on our side; but now I suppose they will deny

that anything of the kind took place—with the ordinary candor of gentlemen who are *found out*.]

[From *Macmillan's Magazine*.

(To be continued.)

LIFE OF MADAME DE LAFAYETTE.*

IN our view of the French Revolution, the violence of the torrent then loosed has always seemed less wonderful than the exceeding weakness of the dam. Why on earth did people submit?

The germ of an answer to this question may perhaps be discovered in the little book which M. de Lasteyrie has so well translated for us. "Submit yourselves humbly to the will of God;" "obey the laws of your country." Yes, yes, but—so complex is life!—it may be shown that an undue and mistaken observance of these principles was the very evil which unchained the hell-hounds of the French Revolution. There is no greater mistake than that of imagining that the Reign of Terror was a time of incessant mobrule and turbulence. It was really from the want of a little healthy turbulence, and the utter absence of any such thing as a good, honest, indignant mob, that the continuance of the "Reign" was made possible. This is easily shown. When the whole power of the State has been suffered to fall into the hands of murderers, it necessarily becomes the duty of the good to rise up against crime—that is, against the law of the land; and in such case, like any other insurgents, they must look to their means of action. Having on their side character, property, and overwhelming numbers, the enemies of "the Terror" were endowed with great elements of strength, but they had to encounter a formidable antagonist—that is, an executive government which was legally armed with the power to kill whomsoever it chose; and besides combination and valor, they were grievously in need of opportunity. They wanted some interruption of the awful calm—some fight, some *row*, some disturbance—in order

that, as soldiers say, they might be able to "rally upon it." For months and months—nay, indeed, during nearly two years—they found no such occasion. Everywhere submission, submission, submission, corresponding and more than corresponding to the triple audacity of Danton.* The men "nowhere," as our turf people say; the women devoutly resigned.

With the aid of Monsieur de Lasteyrie's volume, observe a great noble's town-house in the early days of the Terror. An affray caused by some angry porters at the gate of the Hotel de Noailles, might have become the nucleus of a victorious onset, closely followed by a blessed deliverance; but then an affray was just what did *not* happen, and was not even probable. The law reigned. If you are not afraid of being denounced by some spy as the associate of "aristocrats," you can enter the building. There, when in strict privacy with some members of the great historic house of Noailles, you surely will see the germ of resistance to organised murder. Not at all. You will see two brave, noble, and high-hearted women—one charmingly attractive—recommending each other to prepare for death, with a priest contriving the disguise in which he will make bold to attend their execution; and this, mark, about a *year* before the time when the victims who thus prepared themselves for the knife of the slaughterer were really thrown into prison.

It was owing to their own "faults of temper," as the conjugal phrase goes, and not to the prowess of adversaries, that the butchers at length succumbed. Good men loathing murder had no part at all in the conflict which preceded the end of "the Terror." Robespierre himself was the man who (from overreaching ambition, or from hatred or dread of his brother-terrorists) rose up (with the Commune at his back) against the more blood-thirsty mem-

* Life of Madame de Lafayette, by Madame de Lasteyrie, her Daughter; preceded by the Life of the Duchesse d'Ayen, by Madame de Lafayette, her Daughter. Translated from the French by Louis de Lasteyrie. Paris, Léon Techener, Rue de l'Arbre-Sec, 52: London, Barthes & Lowell, 14 Great Marlborough Street. 1872.

* Ce qu'il nous faut c'est de l'audace, et encore de l'audace, et toujours de l'audace.

bers of the Committee, and it was only in the confusion resulting from the victory of men worse than he was, that honest people at last found courage to interpose.

Until the end thus came, the submissiveness of France knew no bounds. The Reign of Terror was also the Reign of Law. Every scoundrel who sat round the green table in the Committee of Public Safety, and agreed to the daily list of victims, was as amply invested with legal authority as any grand-juryman who brings in a "true bill" at our English assizes. The scaffold reeked, but the women—bringing their work with them—who came every day to see "Madame Guillotine" fed, could at least say that from the cutting of the hair of the victims to the removal of their bodies and the baskets containing their heads, the whole proceeding was strictly legal, and sanctioned besides by universal suffrage. Paris was quiet. Order reigned. Never, perhaps, was the law so respected.

But what is the meaning of all this? Were people all madly wicked? Not at all. Only a few were wicked; the rest were cowed. *Cowed!* A whole people, a brave people cowed? Well, the explanation seems to be this: The executions began, continued, increased in number, and therefore, of course—in one sense—it was by the will of God that they took place. Then, again, they were ordained by the law of the land. These two considerations so effectually reinforced the selfish motives which inclined men to shrink from the immediate danger of resistance, that there resulted that fatal guilt which has been the cause of so much evil in France—the guilt of Resignation.

Our French critics may tell us that we too—and that very lately—have incurred this kind of disgrace—the disgrace of guilty acquiescence. When the rioters, some five years ago, were in possession of Hyde Park, Parliament was sitting, and Mr. Gladstone was the leader of the Opposition. It was plainly incumbent upon him to stand up in his place and say that in the duty of maintaining order the Government would be as firmly supported by his side of the House as by their own accustomed adherents. He remained silent—guiltily silent; but we imagine that his error arose from an impassioned desire for the recovery of office, and a consequent unwillingness to run the least risk of

losing popular favor. In that view his delinquency should be carefully remembered against him; but it was, after all, a sin of ambition, and not one importing that fatal resignation which we have ventured to ascribe to the French.

Whatever counterbalancing merits may be reckoned in defence of the Faith, it seems impossible to doubt that this selfish vice, the vice of guilty resignation, is diligently taught by the Roman Catholic Church, and taught unhappily with a success which does not attend its other and more moral efforts. What makes the matter worse is, that people with the best natural dispositions and the most lively consciences are precisely those who are the most surely corrupted and demoralised by religion thus misapplied. The very men who, by their station, their character, and their natural goodness of heart, might seem to be the best qualified to stand by their country in her hour of trial, are more than all others exposed to this moral palsy. If Hampden had been a good Roman Catholic, he would have paid his ship-money.

Considering the known bravery of the French race, we used always to marvel at the decision taken by the nobles who emigrated when threatened by the dangers of the Revolution; but some part at least of the required explanation is furnished by the circumstance of their having been bred up as Roman Catholics.* It might have seemed that, in their gay brilliant time at Versailles, they were free enough from the sway of religion; but they were all men who had been piously taught in the days of their childhood; and when the hour of danger came, the fatal lesson of resignation which they had received in their early days refastened itself upon their minds, and concurred with their selfish fears in inducing them to shrink from the duty they owed to their country. Besides, the brilliant vigor of the women in France has an incalculable effect in inspiring the courage and enterprise of the men; and if the "better half"—the by far better half—of the nation becomes so piously desponding of human resources as to be preparing for death, there must be imminent danger of a collapse on the part of the men. When French regiments go into action, they like to be led by a woman;* but who

* At Inkerman the 2d battalion of the 3d Zou-

would expect great achievements from the men of a Zouave battalion if the neat-footed vivandière who so prettily marches at their head were to begin prematurely despairing of victory, and crying out for a priest?

The working of this poison—the poison which the French call “clerical”—is exemplified in the little book now before us. We there see the pious and blameless “variety” of the “grande dame” practising every virtue, and coming after all to the scaffold with angelic sweetness; no fathers, no husbands, no sons, no lovers throwing any sort of impediment in the way of all this organised murder; and by the time we have finished the volume, we begin to understand how the divine lesson of resignation to the will of God may be taught and taught and taught by priests till it ends in producing resignation to the will of demons.

The lives of both the Duchesse d'Ayen and the Marquise de la Fayette are written in so pious, or rather in so “clerical,” a spirit, as to be absolutely colorless, and it is from their general tenor rather than from any particular passage that we have been able to deduce our conclusions. The lives, in truth, are so written that it would be more fitting to read them on a Sunday than to quote them on the other six days; but the narrative of the good priest Carichon is extremely interesting, and we give it almost entire. We do this the more readily because the kind, zealous, devoted man tells us how he was able to grant absolution under circumstances strange and terrible.

“The Maréchale de Noailles,* the Duchesse d'Ayen her daughter-in-law, and the Vicomtesse de Noailles her grand-daughter, were detained prisoners in their own house from November 1793 till April 1794. The first I only knew by sight, but was well acquainted with the two others, whom I generally visited once a-week. Terror and crime were increasing together; victims were becoming more numerous. One day, as the ladies were exhorting each other to prepare for death, I said to them, as by foresight: *If you go to the scaffold, and if God gives me strength to do so, I shall ac-*

company you. They took me at my word, and eagerly exclaimed, *Will you promise to do so?* For one moment I hesitated. *Yes, I replied; and so that you may easily recognise me, I shall wear a dark-blue coat and a red waist-coat.* Since then they often reminded me of my promise.

“In the month of April 1794, during Easter week, they were all three conveyed to the Luxembourg. I had frequent accounts of them through M. Grellet,* whose delicate attentions and zealous services were of such use both to them and to their children. I was often reminded of my promise. On the 27th of June, on a Monday, or a Friday, he came to beg of me to fulfil the engagement I had taken with the Maréchal de Mouchy and his wife.

“I went to the ‘Palais de Justice,’ and succeeded in entering the court. I stood very near, with my eyes fixed upon them, during a quarter of an hour. M. and Mme. de Mouchy, whom I had only seen once at their own house, and whom I knew better than they knew me, could not distinguish me in the crowd. God inspired me, and with His help I did all I could for them. The Maréchal was singularly edifying, and prayed aloud with all his heart. The day before, on leaving the Luxembourg, he had said to those who had given him marks of sympathy: ‘At seventeen years of age I mounted the breach for my King; at seventy-seven I ascend the scaffold for my God; my friends, I am not to be pitied.’ I avoid details, which would become interminable. That day I thought it useless to go as far as the guillotine; besides, my courage failed me. This was ominous for the fulfilment of the promise I had made to their relations, who were thrown into the deepest affliction by this catastrophe. They had all been confined in the same prison, and had thus been of great comfort to each other.

“On the 22d of July (1794), on a Tuesday,† between eight and ten o'clock in the morning, I was just going out; I heard a knock. I opened the door, and saw the Noailles children with their tutor. The children were cheerful, as is usually the case at that age, but under their merriment was concealed a sadness of heart caused

aves went into the fight headed gaily by its vivandière. She was killed.

* She was by birth a Cossé-Brissac. Her advanced age had impaired her faculties.

* Tutor to Alexis and Alfred de Noailles, sons of the Vicomtesse de Noailles.

† 4 Thermidor.

by their recent losses and by their fears for the future; the tutor looked sad, careworn, pale, and haggard: 'Let us go to your study,' he said, 'and leave the children in this room.' We did so. He threw himself on a chair. 'All is over, my friend,' he said; 'the ladies are before the Revolutionary Tribunal. I summon you to keep your word. I shall take the boys to Vincennes to see little Euphémie.* While in the wood I shall prepare these unfortunate children for their terrible loss.'

"Although I had long been prepared for this news, I was greatly shocked. The frightful situation of the parents, of the children, of their worthy tutor, that youthful mirth so soon to be followed by such misery; poor little Euphémie, then only four years old, all these thoughts rushed upon my mind. But I soon recovered myself, and after a few questions, and answers full of mournful details, I said to M. Grellet: 'You must go now, and I must change my dress. What a task I have before me! Pray that God may give me strength to accomplish it.' We arose, and found the children innocently amusing themselves, looking gay and happy. The sight of them, the thought of their unconsciousness of what they were so soon to learn, and of the interview which would follow with their little sister, rendered the contrast more striking, and almost broke my heart. Left alone after their departure, I felt terrified and exhausted. 'My God, have pity on them and on me!' I exclaimed. I changed my clothes and went to two or three places. With a heavy load on my heart, I turned my steps towards the 'Palais de Justice,' between one and two o'clock in the afternoon. I tried to get in, but found it impossible. I made inquiries of a person who had just left the tribunal. I still doubted the truth of the news which had been told me. But the answer destroyed all illusion and all hope; I could doubt no longer. Once more I went on my way, and turned my steps towards the Faubourg Saint-Antoine. What thoughts, what agitation, what secret terrors distracted my poor brain! I opened my heart to a friend whom I could trust, and who, speaking to me in God's name, strengthened my courage. At his house I took some coffee, which seemed to relieve my head.

* Their sister, Mme. de Vêrac.

"Thoughtful and irresolute, I slowly retraced my steps towards the 'Palais de Justice,' dreading to get there, and hoping not to find those whom I was seeking. I arrived before five o'clock. There were no signs of departure. Sick at heart, I ascended the steps of the 'Sainte Chapelle,' then I walked into the *Grande Salle*, and wandered about. I sat down, I arose again, but spoke to no one. From time to time I cast a melancholy glance towards the courtyard, to see if there were any signs of departure. My constant thought was that in two hours, perhaps in one, they would be no more. I cannot say how overwhelmed I was by that idea, which has affected me through life on all such occasions, and they have only been too frequent. While a prey to these mournful feelings, never did an hour appear to me so long or so short as the one which elapsed between five and six o'clock on that day. Conflicting thoughts were incessantly crossing my mind, which made me suddenly pass from the illusions of vain hope to fears, alas! too well founded. At last I saw, by a movement in the crowd, that the prison door was on the point of being opened. I went down and placed myself near the outer gate, as for the previous fortnight it had become impossible to enter the prison yard. The first cart was filled with prisoners, and came towards me. It was occupied by eight ladies, whose demeanor was most edifying. Of these, seven were unknown to me. The last, who was very near me, was the *Maréchale de Noailles*. A transient ray of hope crossed my mind when I saw that her daughter-in-law and her grand-daughter were not with her; but, alas! they were in the second cart.

"Mme. de Noailles was in white; she did not appear more than twenty-four years of age: Mme d'Ayen, who looked about forty, wore a dress striped blue and white. Six men got in after them. I was pleased to see the respectful distance at which the two first placed themselves, so as to leave more liberty to the ladies. They were scarcely seated when the mother became the object of that tender solicitude for which her daughter was well known."

In the heart-rending scene which follows, the good priest was too far away from the carts containing the victims to be able to hear what they said; but whilst gazing in his agony at the angelic Mme. de Noailles, and happily catching her

eye, he was able, as it were, to *see* her speak, and nothing can be more touching, or more tenderly beautiful, than the words she seemed to utter. Let us add that those words lose nothing by passing into the exquisite English in which M. de Lasteyrie has translated them. We may be unduly proud of our language, but certainly we imagine that these words, as rendered by M. de Lasteyrie, are even more touching than the original French. The narrative goes on:—

"I heard it said near me, 'Look at that young one, how anxious she seems! see how she is speaking to the other one!' For my part, I felt as if I heard all they were saying. *Mama, he is not there.—Look again.—Nothing escapes me; I assure you, mama, he is not there.*

"They had evidently forgotten that I had sent them word that it would be impossible for me to gain admittance into the prison yard. The first cart stopped before me during at least a quarter of an hour. It moved on; the second followed. I approached the ladies; they did not see me. I went again into the 'Palais de Justice,' and then a long way round, and stood at the entrance of the 'Pont-au-Change,' in a prominent place. Mme. de Noailles cast her eyes around her; she passed, and did not see me. I followed the carts over the bridge, and thus kept near the ladies, though separated from them by the crowd. Mme. de Noailles, still looking for me, did not perceive me. Mme. d'Ayen's anxiety became visible on her countenance. Her daughter watched the crowd with increasing attention, but in vain. I felt tempted to turn back. Have I not done all that I could? I inwardly exclaimed. Everywhere the crowd will be greater; it is useless to go any further. I was on the point of giving up the attempt. Suddenly the sky became overclouded, thunder was heard in the distance; I made a fresh effort. A short cut brought me before the arrival of the carts to the Rue Saint-Antoine, nearly opposite the too famous 'Force.' At that moment the storm broke forth. The wind blew violently; flashes of lightning and claps of thunder followed in rapid succession; the rain poured down in torrents. I took shelter at a shopdoor. The spot is always present to my memory, and I have never passed by it since without emotion. In one moment the street was cleared: the crowd

had taken refuge in the shops and gateways. There was less order in the procession, both the escort and the carts having quickened their pace. They were close to the 'Petit Saint-Antoine,' and I was still undecided. The first cart passed. By a precipitate and involuntary movement I quitted the shop-door, rushed towards the second cart, and found myself close to the ladies. Mme. de Noailles perceived me, and, smiling, seemed to say: *There you are at last! How happy we are to see you! How we have looked for you! Mama, there he is!* Mme. d'Ayen appeared to revive. As for myself, all irresolution vanished from my mind. By the grace of God I felt possessed of extraordinary courage. Soaked with rain and perspiration, I continued to walk by them. On the steps of the church of Saint Louis I met a friend who, filled with respect and attachment for the ladies, was endeavoring to give them the same assistance. His countenance, his attitude, showed what he felt. I placed my hand on his shoulder, and, shuddering, said, 'Good evening, my dear friend.'

"The storm was at its height. The wind blew tempestuously, and greatly annoyed the ladies in the first cart, more especially the Maréchale de Noailles. With her hands tied behind her, with no support for her back, she tottered on the wretched plank upon which she was placed. Her large cap fell back and exposed to view some grey hairs. Immediately, a number of people, who were gathered there notwithstanding the rain, having recognised her, she became the sole object of their attention. They added by their insults to the sufferings she was enduring so patiently. 'There she is, that Maréchale who used to go about with so many attendants, driving in such fine coaches: there she is in the cart, just like the others!' The shouts continued, the sky became darker, the rain fell heavier still. We were close to the *carrefour*, preceding the Faubourg Saint-Antoine. I went forward, examined the spot, and said to myself, This is the place for granting them what they so much long for.

"The cart was going slower. I turned towards the ladies, and made a sign which Mme. de Noailles understood perfectly. *Mama, M. Carrichon is going to give us absolution*, she evidently whispered. They piously bowed their heads with a look of

repentance, contrition, and hope. Then I lifted up my hand, and, without uncovering my head, pronounced the form of absolution, and the words which follow it, very distinctly, and with supernatural attention. Never shall I forget the expression of their faces. From that moment the storm abated, the rain diminished, and seemed only to have fallen for the furtherance of our wishes. I offered up my thanks to God, and so did, I am sure, these pious women. Their exterior appearance spoke contentment, security, and joy."

Here, then, was absolution not preceded by any confession which can be called "auricular," and given, besides, by the priest whilst standing disguised in a crowd; but we believe it is not doubted in the Roman Catholic Church that the deviation from the usual practice had a sound warrant in the necessity of the case, and that the absolution was valid. The narrative goes on:—

"As we advanced through the 'Faubourg,' the rain having ceased, a curious multitude again lined the two sides of the street, insulting the ladies in the first cart, but above all the Maréchale. Nothing was said to the others. I sometimes walked by the side of the carts, and sometimes preceded them.

"At last we reached the fatal spot. I cannot describe what I felt. What a moment! What a separation! What an affliction for the children, husbands, sisters, relations, and friends who are to survive those beloved ones in this valley of tears! There they are before me full of health, and in one moment I shall see them no more. What anguish! yet not without deep consolation at beholding them so resigned.

"We came in sight of the scaffold. The carts stopped, and were immediately surrounded by the soldiers. A ring of numerous spectators was soon formed, most of whom were laughing and amusing themselves at the horrible sight. It was dreadful to be amongst them!

"While the executioner and his two assistants were helping the prisoners out of the first cart, Mme. de Noailles's eyes sought for me in the crowd. She caught sight of me. What a wonderful expression there was in those looks! Sometimes raised towards heaven, sometimes lowered towards earth; her eyes, so animated, so gentle, so expressive, so heavenly, were often fixed on me in a manner which would

have attracted notice if those around me had had time for observation. I pulled my hat over my eyes without taking them off her. I felt as if I could hear her say, *Our sacrifice is accomplished! We have the firm and comforting hope that a merciful God is calling us to Him. How many dear to us we leave behind! but we shall forget no one. Farewell to them, and thanks to you! Jesus Christ, who died for us, is our strength. May we die in Him! Farewell. May we all meet again in heaven!*

"It is impossible to give an idea of the animation and fervor of those signs, the eloquence of which was so touching that the bystanders exclaimed: 'Oh! that young woman, how happy she seems, how she looks up to heaven, how she is praying! But what is the use of it all?' And then, on second thoughts: 'Oh! the rascals, the bigots!'

"The mother and daughter took a last farewell of each other and descended from the cart. As for me, the outer world disappeared for a moment. At once broken-hearted and comforted, I could only return thanks to God for not having waited for this moment to give them absolution; or, which would have been still worse, delayed it till they had ascended the scaffold. We could not have joined in prayer while I gave, and they received, this great blessing, as we had been enabled to do in the most favorable circumstance possible at such a time. I left the spot where I was standing, and went over to the other side, while the victims were getting out. I found myself opposite the wooden steps which led to the scaffold. An old man, tall and straight, with white hair and a good-natured countenance, was leaning against it. I was told he was a *fermier-général*. Near him stood a very edifying lady, whom I did not know. Then came the Maréchale de Noailles, exactly opposite me, dressed in black, for she was still in mourning for her husband. She was sitting on a block of wood or stone which happened to be there, her large eyes fixed with a vacant look. I had not omitted to do for her what I had done for so many, and in particular for the Maréchal and Maréchale de Mouchy. All the others were drawn up in two lines, looking towards the Faubourg Saint-Antoine. From where I stood I could only perceive Mme. d'Ayen, whose attitude and countenance expressed the most sublime, unaffected, and devout resignation.

She seemed only occupied with the sacrifice she was about to make to God, through the merits of the Saviour, His divine Son. She looked as she was wont to do when she had the happiness of approaching the altar for holy communion. I shall never forget the impression she made on me at that moment. It is often in my thoughts. God grant that I may profit by it!

"The Maréchale de Noailles was the third person who ascended the scaffold. The upper part of her dress had to be cut away in order to uncover her throat. I was impatient to leave the place, but yet I wished to drink the cup of bitterness to the dregs, and to keep my promise, as God was giving me strength to do so, even in the midst of all my shuddering horror. Six ladies followed. Mme. d'Ayen was the tenth. How happy she seemed to die before her daughter! The executioner tore off her cap. As it was fastened by a pin which he had forgotten to remove, he pulled her hair violently, and the pain he caused was visible on her countenance.

"The mother disappeared, the daughter took her place. What a sight to behold that young creature, all in white, looking still younger than she really was, like a gentle lamb going to the slaughter! I fancied I was witnessing the martyrdom of one of the young virgins or holy women whom we read of in the history of the Church. What

had happened to the mother also happened to her: the same pain in the removal of her cap, then the same composure and the same death. Oh! the abundant crimson stream that gushed from the head and neck! How happy she is now! I thought as her body was thrown into the frightful coffin.

"May Almighty God in His mercy bestow on the members of that family all the blessings which I ask, and entreat them to ask for mine! May we all be saved with those who have gone before us to that happy dwelling where revolutions are unknown—to that abode which, according to the words of Saint Augustine, has Truth for its King, Charity for its law, and will endure for Eternity."

The moral *we* draw is, that neither men nor women should be brought by priests or deacons into that state of mind which fits them to be trampled upon without resistance. Charlotte Corday was the superb exception; but in general, both by nature and habit, the Frenchman has always been but too well inclined to meet the approaches of tyranny with a shrug and "que voulez-vous?" and it seems perverse in the extreme to aggravate this baneful weakness by applying to those who were only "victims," the grand appellation of "martyrs," and confusing the idea of submission to Heaven with that of submission to scoundrels.

[From *Blackwood's Magazine*.

ART AND MORALITY.

SPINOSA says somewhere that our passions all imply confusion of thought; and of course he proves this with all the parade of geometrical method which is so satisfying to some and so tedious to others. But everybody can verify the aphorism for himself by observing that he becomes calm as soon as he can attend to what it is that has disturbed him. And this suggests that passion and art must be enemies, so far as passion is a temptation, and so far as art is perfect; for certainly everyone would agree that it is a perfection of art to present, and therefore to conceive, its subject as clearly and as adequately as may be. The subject of the Epithalamium of Mallius, or of the Vigil of Venus, is full in one sense of danger to morality, but the danger is that our feeling for the subject should be too strong for the poetry

which inspired it, that we should abandon ourselves to a blind glow of pleasurable emotion and lose sight of the vivid train of clear, articulate images which set our hearts on fire at first. And there is another safeguard to morality; perfect art must be more than adequate, it must be satisfactory; it is condemned by its own standard till it can produce a type which can be contemplated upon all sides and throughout all time. The situation of Maggie Tulliver in the boat with her cousin's betrothed, has many elements of artistic beauty; it is romantic, intense, and elevated; but it is not satisfactory ideally because it is not satisfactory morally: like Maggie, we cannot forget the beginning, we cannot but look forward to the end. It is well that the dream should be broken; though the voyage on the flood

to Tom and to death has less charm, it has more peace; the imagination can dwell upon it. The new pagan treatment of the Tannhäuser legend seems capable of a more musical intensity than the traditional Christian treatment, yet it can hardly be doubted that Heine was right on purely artistic grounds in giving up this intensity, and following his own temper, and turning all to irony. Mr. Swinburne has to undertake the impossible task of reconciling us to the thought of a Hell, too intensely realized to be poetical; the knight has to promise that he will remember and rejoice in Venus there—we could not have believed it of a saint. Perfect art does not deal in paradoxes. This carries us a step further. In order that art may be adequate and satisfactory it must be sane and rational, it must be the expression not of revolt but of harmony, it must assume and reflect an ideal order in the world. The impulse of revolt is strong both in Byron and Shelley, and they are among the greatest of poets, but the law holds good in them. The grandest canto of Childe Harold is the last, where despair and disdain are passing into a calm that at least is half-resigned. Shelley's anguish for himself and for mankind goes off incessantly into mere shrieking whenever it takes the form of a revolt against the tyranny of kings and priests, it becomes musical again when it blends with the mute sorrow of "the World's Wanderers," and becomes a voice in the universal chorus of the whole creation that groaneth and travaileth in pain together. It is not required of art to be cheerful, neither is it required of morality as such. Marcus Aurelius and George Eliot present "altruism" under a form that makes the Epicurean burden—"Let us eat and drink, for to-morrow we die"—glad tidings of great joy to flesh and blood. But though George Eliot's fascination is painful, it is complete, there is nothing to disgust and emancipate us; for her art rests upon the acknowledgment of an order to which all must be subject whether they will or no, though the order exists for other ends than the happiness, or even the perfection, of the creatures under it. We need not inquire whether such a morality is enough for life, but, in its obedience, art finds perfect freedom. Or rather, absolute art is not subject to absolute morality, but both are expressions of one ideal order which

must always be conceived as holy, just, and good, though it is not always conceived as giving life and peace.

The art which is always claiming to be emancipated from morality is not the absolute art; perhaps the morality which it rebels against is hardly the absolute morality. The practical question has to be discussed on a lower level, but it is not to be dismissed as though the art which comes into conflict with morality were spurious because it is not the highest. True, the perfections of art are its safeguards, but art may be so much without being perfect. Its perfection exists rather for itself than for us, though we rejoice in it afar off; what we need is that it should be stimulating, and this too is what the artist needs, for he too is of the same clay as we. Like us, he desires fresher emotions than the ordinary round of life supplies, though this too has a satisfaction of its own for those who cherish its affections. And the craving which is occasional with us is habitual with him. He refuses the false gratification that might be found for it if he would make virtue always culminate in some kind of Lord Mayor's Show; life loses such flavor as it has in the attempt to make it just a little better, and a little easier, and a little prettier. If the artist will not idealize ordinary life by falsifying it, and cannot idealize it in the light of the higher law, or sustain himself upon the level of ideal action, it remains for him to go beyond the world since he cannot rise above it. He tries to escape from the hackneyed routine of domestic duties and felicities into an unsatisfactory fairy-land of extreme passions, of untried desires, of unfettered impulses, working themselves out within the exciting complexities of abnormal situations. Since he cannot have the true ideal, and will not put up with the false, he demands the whole range of the real, and chooses to be always gleaning on the outskirts of possibility. The lust of the flesh and the lust of the eye and the pride of life are not really ideal, but they have their ideal moments (or they could not tempt us), and there comes a time when art finds it hard to part with one of these. The only justification that has yet been put forward for the persistent attempt to pluck the "flowers of evil" is that the artist shares the general dislike to their fruit, and that, whether he plucks or no, the world is sure

to wear them. There are very few like John Foster, to whom almost all art, especially all classical art, was essentially immoral because it nourished the pride of life: art that appeals merely to curiosity or to the extreme sense of beauty is always thought safe and respectable; when we speak of immoral art we mean art that deals with sensual impulses, or rouses rebellion against the order of society; perhaps too there are many who object to the first because it results in the second. And even on this point public opinion is rather emphatic than clear. It would be hard to find a popular definition of literary immorality which would not condemn the episode of Paolo and Francesca; it is almost as if Dante had come to curse them, and lo! he blessed them altogether: they are always together, and they always love; there are more who could learn to look to such a hell with yearning than choose to enter the purgatory of Gerontius. The Laureate may seem as unimpeachable on this score as Dante, yet it is hard not to think Aylmer's Field an immoral poem. The wrath of man worketh not the righteousness of God, and the only outcome of Aylmer's Field is the wrath of man. We have an evil action represented in an evil spirit; if we are not to condemn this, how are we to condemn such a poem as "The Leper," *à priori*, merely because Mr. Swinburne follows Luther's maxim, *pecca fortiter*? In truth, the question within what limits it is safe to pursue "art for art," is hardly one that could be asked in an ideal state of things. Then art would be continually enriched by life, and life illuminated by art. It never occurred to Shakespeare, or Titian, or Leonardo, that the choice of Hercules lay between life and art: art in its supreme epochs has always been nourished and exalted by the chastened or unchastened pride of life. When we speak of choosing art for art, we acknowledge that the pride of life does not need any longer to be mortified, because it is dead. When life and art are parted,

"Stratus humi palmes viduas desiderat ulmos."

But the gleaning of the vintage still is sweet; only when a man has renounced the rewards of life for art, he has not escaped its obligations; if any were mad enough to lose his soul for art, he would find he had lost art too. We cannot expect an ideal answer to a question which

it is a misfortune to have to ask. Artists who have not attained the vision of eternal and ideal beauty have no right to an ideal liberty, and we have no right to try their work by an ideal standard till we have tried ourselves. Every one must apply as he can the principle that all art is lawful for a man which can be produced or enjoyed within the limits of a safe and wholesome life. When we know that Etty lived quietly and soberly with his sister, and was grateful to her for finding him respectable models, we know that he had succeeded for himself in finding a true relation between morality and art. Yet we should think hardly of a man who collected exclusively what Etty produced exclusively. An idle man might get all the pleasure from Etty's pictures that they can give, and that is not a safe pleasure for an idle man, but the pictures themselves were the work of honest labor—and *qui laborat orat*. The safeguard that the artist has in the very necessity of working we may bring from our own work, and then we shall be most likely to find it anew in strenuous sympathy with his. To the pure all things are pure: it is recorded of one of the best public men of America that even the *ballet* always filled him with religious rapture.

It is fortunate to possess such a temper, it would be silly and dangerous to aim at it: individuals must be guided by their own desire for virtue, and by the consent of virtuous and cultivated men. It is suggestive to observe that the limits of their toleration vary according to the medium in which the artist works. In music there are hardly any limits at all; we can hardly imagine such a thing as a melody immoral in itself, though there are melodies which do not seem profaned when fitted to immoral words. Plastic art has less liberty, yet even here almost everything is permitted short of the direct instigation of the senses to rebellion; it is impossible to draw the line earlier when we have once sanctioned the representation of the nude. After all, Eye Gate does not lead far into the town of Mansoul. It is only when we come to the literature that the conflict becomes serious, and that honest artists wish to handle matters which honest men of the world wish to suppress. This points to a distinction which is not without practical value. Literature is the most complex form of art, the form which touches reality at most points, and therefore the

mind passes most easily from literature back to life. And therefore what is dangerous in life is dangerous in literature, though it may be innocent in other forms of art which in themselves are more intense. The first impression of a great picture or a great symphony is more vivid than the first impression of a great poem; it is at the same time more definite and more completely determined by the intention of the artist. A great picture, a great symphony are in one way infinitely complex, but both take their key-note from a single movement of the subject. Few subjects are too unsatisfactory to present at least one noble aspect, to strike at least one noble chord. In literature it is difficult to isolate the æsthetic side of a subject so completely, because literature tells by the result of a great many incomplete suggestions which the reader has to work out for himself, so that there is no security that he will be able to keep entirely within the intention of the writer. And the writer, too, finds it harder to subordinate the intellectual and the emotional sides of his subject to the æsthetical; and morality is certainly justified in proscribing anything that can make familiarity with those sides of an immoral subject less unwelcome and disgusting. Still it is possible to maintain a certain ideal abstractness of treatment even in literature which has its use. Every one feels the difference between the diseased insolent pruriency with which Byron keeps flaunting the sin in our faces in all the loves of Don Juan, and the sad gracious *naïveté* of Mallory, as he sets forth the passion of Lancelot and Guinevere. Some indeed might think that it was better to let us rest upon the nobleness of Lancelot than to try to save morality by demonstrating the superiority of Arthur. Demonstration involves discussion, and discussion might leave us sceptical as to whether Guinevere's second thoughts were really best. There certainly are instances which show beyond question that abstractness and simplicity of treatment are a better safeguard than the best didactic intention. Madame Bovary, not seductive in intention, is undeniably more deterrent in result than the episode of Paolo and Francesca; but no one would dream of calling it more moral.

Of course it is possible to maintain that all these distinctions are superfluous, that Plato and Savonarola were right; that, no

matter who treats them, no matter how they may be purified by severe accuracy and æsthetic isolation of treatment, still, dangerous subjects will be always dangerous, that art if permitted to exist at all should be rigidly and consistently subordinate to edification, and that if a few supreme works should be allowed to subsist un mutilated, all production that fell short of supreme perfection should be carefully limited to drawing-room charades and nursery novellettes, and Sunday picture-books, just to keep children of all ages out of mischief. At any rate, this view has the merit of being thorough and intelligible; it is infinitely more respectable than the common view, if it is to be called a view, which emancipates art from rational and ideal restrictions to subject it to restrictions which are shifting and arbitrary, which allows it to call evil good and good evil, so long as it does not violate the conventionalities of the day, and thinks it is quite sufficiently stimulating if it can be got to show the world, or at any rate the little piece of it the public likes to look at, all *couleur de rose*.

Only it is to be remembered that if we sacrifice art to morality we must sacrifice other things too. Comfort and liberty and intelligence, to say nothing of such trifles as wealth and luxury, have their temptations as well as art, and Plato and Savonarola would gladly have sacrificed them all. The sacrifice might be rewarded if it could be made: Rousseau thought it would be well to return to barbarism to escape from the inevitable injustices of civilizations; perhaps it might be well to return to the Thebaid to escape from its temptations. But as we are too weak for the Thebaid we do well to endure the temptations of the world lest we should regret them, and among these the temptation of art is not the deadliest because it is the sweetest. Even Plato thought that virtue should be tested by pleasure as well as by pain, and therefore he directed that the citizens of his ideal city should be proved by seeing how they bore themselves when drunk with wine—surely it would have been better to make them drunk with beauty.

Of course Plato wished to make them drunk with beauty too. He thought concrete beauty was the fountain which could quench the ascetic's thirst. But all this while he was thinking of the beauty not of art but of life. He did not underrate,

perhaps he overrated, the moral value of æsthetic culture; but this high estimate of æsthetic was quite compatible with a very low estimate of art, which he regarded simply as providing instruments for a series of æsthetic exercises to be regulated in accordance with superior regulations, so that a poet had no more right to set up on his own account, and develop his products for their own sake, than if he were a maker of flesh-gloves or dumb-bells. Consequently he had no occasion to discuss the artistic value of morality, though if he had done so he would hardly have been tempted to indulge in an estimate of its æsthetic value so one-sided as to be extravagant. One reason of this one-sidedness was that Greek morality, before the rise of Stoicism, treated the mass of human actions as indifferent; to be left to nature or at best regulated by external conventionalities; consequently the notion of virtue was not lowered by the dulness of duty, it was always identified with the rapturous ecstasy which accompanies great deeds, which are always exceptions even in the life that is fullest of them, or with the calm diffused satisfaction which radiates over the whole of a fortunate and praiseworthy life. Aristotle could still hold that virtue was virtuous in that its works were wrought *τοῦ καλοῦ ἕνεκα*, "for the sake of the Beautiful." Epictetus was not far from the view of Christian asceticism, that good works done from a motive savoring so much of self-satisfaction were hardly virtuous at all.

But even the most picturesque heroism involves sacrifice and suffering, and no sacrifice is without an element that is hardly attractive æsthetically. The comely corpse of the young warrior slain in the front of the battle, in Tyrtæus, is more satisfactory to the æsthetic sense than the soul of Hector flitting to Hades, waiting for the supple strength of the limbs it left in their young prime; but morally the advantage is really on the side of Homer,—it is better to look facts in the face. The saints of life wear no halo, the heroes of life wear no enchanted armor to keep them scathless to the fatal hour that translates them to Valhalla, or Elysium, or Avalon. If it were so, life would hardly be better, but it is a paradox to deny that it would be more beautiful; and it would be a paradox to deny that most of the virtue which enables the world to go on is without any æsthetic value at all. Nor can we take refuge in the con-

venient observation that human virtue is never quite perfect, that for the most part it is grossly and glaringly imperfect; for virtue may be all but perfect, and yet be dull, because it is painful, obscure, and, humanly speaking, fruitless. Professor Jowett is quite right in pointing out that a servant girl who spends her wages on a peevish, slatternly mother, and a lazy dissipated brother, is the heir of many beatitudes, but it does not follow that she is a "Beautiful Soul;" fine feelings go the way of fine phrases with those who have to do and suffer overmuch.

And the aspects of morality which have the highest æsthetic value are very far from having the highest artistic value, for literary art at any rate. The best that can be obtained from them is a lyrical or semi-lyrical allusion, that may light up a lower theme. To try to idealize a great deed is only painting the lily; to try to idealize a great purpose is to drift into a labyrinth of mere intellectualism. From this point of view it is instructive to compare the "Idyls of the King" with the "Antigone" of Sophocles, and to notice what proportion the emotional and artistic interest bears in each to the moral and intellectual interest. But if it can be answered without a theory, an ideal problem is better for literature than an ideal character: Wallenstein is lower æsthetically than Tell; artistically King Alfred is less valuable than Richard III. The closing scene of the life of the Emperor Maurice when his children were butchered before his face, and he gave up the last rather than allow the nurse to sacrifice her own, combines almost every element of ethical and æsthetic nobility. At first it seems dramatic, but what could dramatic art add to it? Stage effect perhaps, so far as it is due to the actor; all that a poet could hope to do on his own account would be to prepare a character to culminate in such a sacrifice. The value of this last is very doubtful. The æsthetic value of Joan of Arc's life lies in the historic moments which it would be impossible to adorn and a profanation to falsify. It is hardly worth while for literature to do what remains, and supplement pictures of concrete heroism with the most delicate analysis of her feelings when the French army was beginning to find her a troublesome visionary, or when she was being brow-beaten into recantation in an English dungeon. It might be done fifty ways

but Etty's picture of her at the stake would always be worth them all. In the same way Delaroche's "Christian Martyr" is a greater addition to the "Golden Legend" than Massinger's "Tragedy on Dorothea," and we need never expect to meet with a poem on Elijah which shall light up the history in the way Mendelssohn's music does. Or to come down to a level where the æsthetic value of morality is not on the heroic scale, who would not give all the graceful books that can be written on Eugénie de Guérin for a portrait of one whose life within its narrow limits was so beautiful? Or to come lower yet, such æsthetic value as the pathos of common life possesses is better represented by Frère than by Dickens, because Frère avowedly represents its momentary aspects, whereas Dickens would have been compelled, if he had not been inclined, to represent the picturesque and pathetic side of poverty as something normal and habitual. The fact is, literature comes too near to life to rise above life at its highest, or to keep above life at its lowest; it is confined to a middle region where it can embellish without falsifying.

And if literature has to turn away from what is best in life, other forms of art by their greater detachment carry us away from life into fairyland, so that here too it is impossible to formulate an ideal relation between average art and average morality, so that practical enthusiasts can always maintain that what is given to art is taken from morality. Yet there is an ideal reason for their co-existence. Life has been compared to a tapestry which is worked on the wrong side; and after all it is this side which we see in morality; in art we see not the right

side, for this is covered up as fast as it is finished, but perhaps some reflection of the pattern too much distorted to be valuable when the tapestry is finished and fixed; till then it has its use: those must work very earnestly who work the faster for looking upon the wrong side alone. Of course it is unsatisfactory to have to think of art and life co-existing in this state of jealous co-operation that can hardly be distinguished from subdued antagonism; but after all this is one of the minor discomforts of an unsettled period in which nothing is satisfactory, though to healthy tempers much is hopeful. To such a temper it would be one hopeful sign that we are beginning to recognize that, as it is ruin and madness to sacrifice morality to artistic eccentricities, so it is folly and loss to sacrifice the normal development of art to moral conventionalities. Though art must always contain something which is a snare to morality, and morality must always cultivate much which is simply an encumbrance to art, we may rest upon the thought that absolute art and absolute morality, though perfectly distinct, are always harmonious. All are bound to practise morality, though the majority can never carry it to its ideal stage; it is the same with the majority of those who are called to cultivate art; but by keeping their eyes on the unattainable, morality will catch some grace, art will be preserved from revolt and excess. By patience and work we may hope to lift a happier generation to a level when the question between morality and art disappears: at all events we shall be lifted ourselves to a world where that question and many others are easily answered and need not be asked.

G. A. SIMCOX.

RATTLESNAKES.

IN the first place, let me start by contradicting every book I have ever read, and consequently the authority of almost every naturalist, as to how snakes bite, and inject their poison. I can only speak for the rattlesnake, it is true; with every other venomous reptile, the orthodox accounts may be correct, but the rattlesnake does not send its poison through its fangs. It is always said that the two fangs which answer somewhat to the human 'eye-teeth,' are hollow, and perforated at the

bottom, and that the poison flows from the reservoir through this canal to the point of the fang, and thence into the wound. The rattlesnake's fang is certainly hollow, but the point is solid, and the poison-bag, to use a very homely simile, may be compared in its position to a gum-boil; when the animal strikes, the pressure instantly causes a drop of venom to run down *outside* the tooth into the puncture. I daresay this will be controverted, and I therefore at once give an authority to be referred to,

Mr. W. R. Morley, chief surveyor of the North and South, and United States Central Railways, running through Colorado and New Mexico, is a skilled naturalist who has killed several hundreds of these reptiles, has carefully examined them, and has made them bite when in a position to watch them, and he can speak from more experience than almost any living man, that the poison is injected in the manner described. This accounts for the fact, that rattlesnake-bites are sometimes harmless when the sufferer is bitten through cloth; the poison is absorbed by the material, and never finds its way into the flesh at all.

The rattlesnake is supposed, by those who are likeliest to know, to be extending its area; all writers have hitherto concurred in saying that they were never met with at an elevation of more than six thousand feet above the sea-level; but several recent explorers unite in saying that they are now found much higher. The gentleman just cited as an authority, and whose surveying-party destroyed hundreds of rattlesnakes last autumn, killed forty or fifty at an elevation of about eight thousand feet. Formerly, they declare, they never used to find them so high. The mountain snakes are more vivid in their colors than their brethren of the prairies, and, of the two, are more dreaded on account of their supposed ferocity.

Although, as just said, the rattlesnake is spread almost generally over the North American continent, yet it is, of course, more plentiful in some parts than in others, and Texas probably holds an infinitely larger proportion of reptiles than any other state in the Union. The district lying between the Rio Grande and the Nueces—two streams which flow in the same direction at a distance of some sixty or seventy miles—is a desert, barren region, literally swarming with serpents. In summer, you may ride for miles through this district, and not go fifty yards without seeing rattlesnakes. In other parts of Texas, the moccasin is the prevalent snake; while centipedes, scorpions, tarantulas, and the alligator infest various localities, and are each a terrible scourge.

The rattlesnake is perhaps the most sluggish of all the serpent tribe, for even the puff-adder of the Cape, which has that reputation in general, is very active when enraged; but the rattlesnake, excepting

just after and just before its winter-sleep, never bites excepting in self-defence, and does not go out of its way to attack any one. Unless molested, there is very little to fear from this snake; but the misfortune is, that you cannot tell when you are going to molest it, as, in coming down a bluff, or picking your way in a gully, you may, with the best intentions in the world, put your foot on a rattlesnake. And then the terrific swiftness of his dart! Not even the cobra, which I had always considered rivalled the very lightning in its movements—movements which I will defy any European eye to follow—is quicker than the rattlesnake in that one deadly act. Yet, to strike, it must be in a close coil, its head and neck being erect; it throws itself out about three-fourths of its length, supporting its weight entirely on the tail-part. I have, however, known two persons who have trodden on rattlesnakes and have escaped; a third, as will be seen, was still more remarkably fortunate. One, a gentleman who has killed more than fifty of them, recognised what his foot touched without stopping to look, and jumped higher than he had probably ever done before in his life; the other was not so quick, and the reptile struck him three times with electric quickness, but his trousers and long boots saved him. This disposes of a fallacy very generally held, that venomous serpents will not bite twice in succession: there were the three pair of fang-marks quite plainly to be seen on his white trousers. One young man who was bathing in the river Platte had a more extraordinary escape still, for, on emerging from the water, he sat down, being, of course, completely naked, on a rattlesnake which was basking in the grass. Whether he sat upon the reptile's head, or whether the creature was too astonished by his sudden descent, can never be known, but certain it is, that the affrighted bather leaped up with a shriek, and escaped unhurt.

It is told that this particular serpent has a very offensive odor when irritated, and that Dr. Hamilton Roe owed his life to a knowledge of that fact. The physician having opened a box directed to the Superintendent of the Zoological Gardens, London, put his hand—most rashly, it seems to me—under the dry moss which appeared, to see what was there. He touched something alive, and the smell told him it

was a rattlesnake. Had he withdrawn his hand rapidly, he would have been bitten to a certainty; but he had the presence of mind to stroke the reptile, which allowed him to take his hand gently away. This is a well-known story; I only refer to it to add, that this odor is so powerful and permanent, that when a snake is irritated, and made to bite the rake or hoe with which it is intended to kill him—and, as may be supposed, this is very often done—the implement will retain the same unpleasant smell for months. Once known, it is always recognisable.

As much cannot be said of the sound of the rattle. I have been on the prairie when opinions have been divided as to whether a certain ominous clicking arose from the grasshoppers, which were there in great numbers, or a rattlesnake. It is not pleasant, at twilight, to have any doubt on this subject. The chief thing against the rattlesnake theory was, that these reptiles seldom move or leave their holes after sundown. But I would warn the reader not to depend too much on this, as some snakes are certainly of irregular habits, and have been known to crawl into tents, and into beds within the tents. This was for the sake of warmth. Very often the reptiles will content themselves with coming inside; and so true is it that use doth breed a habit in a man, that I have known men sleep quietly all through the night when they were perfectly aware that a rattlesnake was within the walls of their tent. They rolled themselves tight in the blanket, knowing that the creature would not touch any one if it were not first attacked, and that, when the light came, it would go away. In one instance, a man was bitten at night. He was on the prairie, and sleeping near his horse, which was fastened by a long rope to a log or stone. The horse broke away, and the man feeling after the rope in the grass, disturbed a rattlesnake, which bit him on the back of his hand. He was cured by a remedy which I think I have seen recommended in England. A friend cut with a penknife the skin round the puncture, so as to enlarge the wound and make it bleed; then he put a small heap of gun-powder on the spot, ignited it—no pain attending this—and the man was cured. I would just add here, that the stranger must not depend on always hearing the rattle when the snake moves; it is only violently shaken when the animal is alarmed, or is about

to attack, and then the warning and the assault are too close together for the victim to escape.

The rattle has been too often described to need much to be said about it here; it is known to consist of a number of bones, looking like small knuckle-bones, securely fastened together, yet so loosely, that they make a 'clicking' noise when shaken. These grow on to the tail of the reptile; and the popular belief is, that the first joint, which is always of a darker colour than the others, takes two years to grow, while afterwards the snake has an additional joint each year. Some observers contest this, and argue that the reptile forms its rattle much faster than at this rate. The wearing of this rattle in the hat or bonnet is said to be an infallible specific against the headache, and is frequently worn on that account.

There are several kinds of rattlesnakes in America, and they are known by various names. I will at present only refer to two already mentioned—the mountain rattlesnake, and the prairie or field rattlesnake. There is a curious difference between these two, which prevents one being mistaken for the other. On the plains, the snakes have their rattles flat, or broadwise towards the ground; in the mountain species, the rattle-bones are turned edgewise. This is a provision of nature to preserve the bones from the increased danger of breaking them against the stony ground. I imagine that so curious a fact will be useful to support or oppose somebody's theory: but, at all events, it may be relied on.

Not long ago, great anxiety was most naturally exhibited in India to find a cure for serpent-bites, for there, I should fancy, a hundred lives are yearly lost for each one in America from this cause. In Scinde they are an absolute scourge; and after rain, even the public paths a mile or two out of Kurrachee are almost impassable for the numbers of snakes which are crawling about. A reward was offered, and many experiments tried, but all in vain. In India, they have, it is true, the most deadly of all snakes, the cobra, and his venom was usually selected for trial; but among the reptiles which rank with him for inspiring terror, though he may be second, is certainly the rattlesnake. The cobra usually kills in less than an hour; the keeper who was killed by the cobra

in London in 1852, was not bitten till eight in the morning, and he was dead by nine. Of the rattlesnake, I quote from Knight's *Animated Nature* that 'dogs bitten have died in thirty seconds, and men, when bitten on a vein, have often died in two minutes.' Now, as the serpent-poison is blood-poison—of which more anon—it is clear that when a vein is pierced the danger is greater, the progress more rapid; but I never knew of anything in the least resembling this almost instantaneous death, and never met with anybody who did.

There was a fatal case of rattlesnake bite, in the neighborhood from which I write, where a man had shot a rabbit, and he saw it drag itself, though wounded, into a hole; he thrust his hand in to feel for it, but touched instead, a rattlesnake. He was bitten at the bottom of the palm of his hand, just where it joins the wrist. He died from the bite in about twelve days—the only fatal case I know out of about thirty—and he was the only man out of the thirty who had surgical advice. As a rule, doctors would rather not attend snake wounds; they can only rely on one remedy which is not ranked as a drug. Some fifteen of the cases referred to fell within the immediate experience of one friend, whose pursuits for some years exposed him and his companions to the attacks of these reptiles; and, although they were in wild, lonely spots, where assistance of any kind, or aid beyond themselves, could not be obtained, yet, as I have said, none of them died. The remedy in every case was the same. Before mentioning it, I would say that there must be remedies for all these bites, remedies not only existent, but known, or how could the serpent-charmers manage as they do? Speaking only for myself, I would say it seems the height of bigotry to fall back on incredulity and prejudice, and to suppose that because the Eastern nations have no steam-engines, no electric telegraphs, no iron-clad ships, and the like, that therefore they cannot handle poisonous snakes; for that is what our logic amounts to. The very snake that killed the keeper was exhibited by a native who came over with it. But to my rattlesnake remedy, well, it is simply whisky, and it is a specific. It seems an absolutely certain cure, and acts at any time after the bite, so long as the patient has sense to swallow it. I know of one case of rattlesnake bite where four hours elapsed before spirits could be pro-

cured, yet the patient lived. The poison of a snake, by some mysterious potency, causes the blood to coagulate, and, we may say, putrefy, then the sufferer dies. All remedies seem to have failed because they do not act upon the blood: now, whisky does so act. A quart of whisky—*neat*, of course—is about the quantity usually taken, but the cure is effected directly the patient gets drunk; so long as the venom has the mastery, no amount of whisky will affect the head, but directly it is conquered, the patient shows signs of intoxication, and is rescued.

I remember one very curious case, where a woman was gathering strawberries, and was crawling along on her hands and knees to do so, when she was bitten in the lower part of the calf of the leg by a serpent. She saw the creature, and recognised it as the large yellow rattlesnake, common in Iowa, one of the most dreaded of the tribe. She was more than half a mile from home, but she did not lose her presence of mind; she squeezed the puncture with all her force and was glad to find that a greenish drop exuded besides the blood; then she washed it well at the brook, made a sort of plaster of clay, and tied it on, then walked home. A quart of whisky was sent for, greater part of which she drank, and she never felt the slightest inconvenience from the bite. A very strange coincidence in the way of snake-bites was that of two brothers, working on different farms, but each bitten by rattlesnakes on the same day. One was injured close to his own door: he trod on a snake in the grass, and was struck in the ankle, a very dangerous place, on account of the numerous small veins there. The other brother was reaping, or rather winding, and caught hold of a snake, which bit him in the wrist. Both recovered, having drunk very largely of whisky; but in their cases was tried in addition the older-fashioned 'chicken-cure.' In this plan the breast of a chicken is cut open, about skin deep, the feathers being first plucked off; the cut is just deep enough to make blood follow all along the incision, and the cut is held against the snake-bite. It is asserted that the chicken-flesh has a power of withdrawing the venom, and, although the fowl droops, it seldom dies. Close to the place where these men were bitten, a third man suffered; he was making a hedge or fence, and trod on a snake; he was bitten in the foot, but recovered by the use of whisky.

Nearly all snake-bites are in the leg or arm for very obvious reasons; horses or cattle are generally bitten in the jaw, as they disturb the reptiles by their feeding. A horse, mule, or ox generally dies in one, two, or three days. The Indians dread the serpents very much, on account of their so often losing their horses by them.

When we speak of dreading venomous reptiles, we should explain that, horrible and loathsome as the rattlesnake is, and though, on the whole, he is, of course, more feared than any other creature in America, yet, on the western frontier, he is not dreaded so much as the tarantula spider. This is an enemy against whom none can guard, and for whose bite no remedy has been found. Such alarm do they inspire, that I have known a large party of men, who had 'camped out' all through a snake-country, and through the midst of hostile Indians, driven from a desirable position by discovering that tarantulas infested the spot. The tarantula spider commonly grows to the size of half a large walnut, being thick and rounded something like the half-shell, and has eight long legs, two at each corner. It is covered with long hair, and is, indeed, as ugly and disgusting a reptile or insect, or whatever it is, as can easily be seen. The people who dwell where these spiders most abound, declare most stoutly that they attain a size equal to the clenched fist of a man, but I think this is a great exaggeration; at anyrate, I have never seen any approach this size. I do not know if there are several varieties of the tarantula, but some are said to haunt the marshy borders of streams, while others are found in dry, rocky places. Last summer, a woman was bitten near this district by one, just above her ankle; the poison acted quite as quickly as serpent-poison, and she was carried to the nearest town for surgical advice. I have not heard whether she lived or died; but her leg was all one uniform size from the instep to above the knee—I should think eighteen or twenty inches round—and shockingly discolored and inflamed. I knew one of two men who were sleeping in a tent when a tarantula found its way in. They were both bitten by the same spider; one died, the other was scarred for life. The tarantula is more dangerous than other venomous creatures, because a light attracts it, and it will always crawl into a tent, if possible, where a light is burning. They inflict the

wounds with their mouths, and not with nippers or claws.

In England, we often hear of persons who have a sort of fancy for harmless snakes. One gentleman in Berkshire, as is well known, has a taste so strange, and, as it seems to me so perverted, that he makes public announcement of his willingness to receive any quantity of live snakes, which he will turn loose in his park. Such a taste, so far as my experience goes, is utterly absent from the American people. When they do not fear the reptiles with an overpowering fear, they detest and abhor them. It is a fact as well known in England as it is here, that nearly every man who suffers from delirium tremens, imagines he sees or feels snakes near him. 'To have snakes in his boots' is almost proverbial, when speaking of such a man. It is very rare that any joking or pleasantry is tried on where snakes form the machinery; a wholesome dread of the pistol-bullet, which would be the infallible retort, keeps this out of court. Yet I have known one cruel, brutal joke—joke indeed!—played on the fears of a man who was known to entertain a great horror of serpents. He was a switchman on a railway, and as every one knows, had to run to certain points, and turn them. His companions would catch a rattlesnake, draw its fangs, and then lay it down near the 'points.' The poor fellow could not possibly avoid going to his switch, and his comrades used to find amusement in hearing him wonder at the extraordinary fondness of the snakes for that part of the railway, and take credit to himself for the courage with which he attacked and killed them.

I have no space left to speak of centipedes and scorpions, both of which are found very plentifully in Texas, and can only just mention the other snakes which are common in America. The black snake abounds in many parts, and grows to the length of six or seven feet; although not venomous, it is very much disliked and dreaded on account of its spiteful nature. It will frequently attack children, whom it has been known to suffocate by its folds, after the manner of a boa constrictor—in this place, by-the-by, always termed the 'anaconda.' The racer—'blue racer,' as it is called—derives its name from its swift and straight progression; it does not wriggle its crooked way through the dust, but, aided by its hard scales, which grip the ground at each of its curves, goes direct as

a line on its route, and with remarkable speed. The bull-snake is very handsomely marked with diamonds of black and yellow; hence I suspect it is the 'diamond snake' of some districts. These snakes are the largest in North America, growing sometimes to the length of eight or ten feet, and are very powerful.

I cannot remember to have read anywhere that the natives of Mexico were serpent-worshippers. The Pueblo Indians, however, were, and probably still are so, despite their baptisms and their civilisation. The Pueblos are the only civilised and working Indians known, and although often confounded with them, yet differ materially from the ordinary red men of America. Juarez, the ruler who slew and succeeded the unfortunate Maximilian in Old Mexico, was a full-blooded Pueblo; and the tribe make very industrious, successful farmers, and possess, almost exclusively, several large towns. Taos, in New Mexico, is one of these, and it may be remarked that the Pueblo farmers in that district raise wheat incomparably finer than any cultivated by their white rivals. But as regards the town of Taos, it is averred by too many credible persons to leave much doubt upon the subject, that serpent-worship is there practised, and that the sacred snake is there maintained. In the autumn of each year, great festivities are held at Taos, which correspond in their meaning, so far as outsiders

are concerned, with our harvest-home; and in the various games and races every one can join. But it is asserted that at this season other and more mysterious rites are celebrated, and the hidden serpent shown to the faithful. The reptile is said to be, in every case—and other towns have a sacred snake—of the anaconda tribe, and my informants all declared that human sacrifices were offered on these great festivals. This cannot, of course, be proved. If such a thing is done, it must be done in secret; and if a child is really given to the snake, it is no doubt bought from persons at a distance, so that no one shall be missed in the town. Of course, too, those who would be bigoted enough to do such a thing, would also be true to the mystery. No one pretended to have seen the sacrifice, although two men—who were about the most likely in the district to have done so—averred they had seen the Taos snake.

I fully believe there is such a serpent, and that it is worshipped, but as an emblem of something, not as a divinity. Amidst all the interesting legends and superstitions which attach to the Pueblo Indians, it is very plain that their real divinity is Montezuma. Him they worship and him they expect; and in his honor is kept continually burning at Taos, and all other Pueblo towns, the sacred, never-dying fire.

[From Chambers's Journal.]

ON A ROSE.

GATHERED AND GIVEN BY MOONLIGHT.

FRAGRANT, full-flushed, my Flora's gift,
A rose—dear love's own token;
How many whispers shy and swift,
What words half-sighed, half-spoken,
Have severed blossoms such as this,
In hands that pressed and parted,
O'erheard since sounded love's first kiss,
Since love's sweet tear first started.

And if the year were alway June,
And every June were sunny;
If never discord jarred the tune,
Or bitter spoiled the honey;
If days had ever golden morns,
And ever silver closes,
And Love's own blossom knew not thorns,
We'd crown old Time with roses.

But now, O flower of fleeting date,
Yet most unearthly sweetness ;
Thou art a hint of hidden state,
And unattained completeness.
Swift glory of the season's prime,
Brief crown of life's brief passion,
Thou yet dost smile at tyrant Time,
And mock at despot Fashion.

Thy petals spread by Eden's stream,
In Arcady and Arden ;
And now, beneath the moonlight's gleam,
They grace my lady's garden.
Frail yet perennial, flower of flowers,
Sweet rose, what other blossom
Should trail o'er Aphrodite's bowers,
Or deck my darling's bosom ?

And yet, ah ! sad that buds should fall,
And sad that blooms should perish,
Faint odors, withered leaves, be all
That Autumn has to cherish.
The eternal seas of time and tide
Nor change nor chance can banish ;
Our lives are like the waves that glide,
And swell, and break, and vanish.

Ten thousand blossoms such as this
Have witnessed lovers' meeting ;
Seen many a Genevieve's shy kiss,
Heard many a Romeo's greeting.
Where are they now ? The pinch of clay
Pharaoh's huge folly covers,
Is not more wholly dead than they,
The blossoms and the lovers.

My rose to-night is fresh and fair ;
But where's its sister blossom,
That nestled once in Pyrrha's hair,
Or blushed in Celia's bosom ?
Of all the myriad buds abloom
On all the plains of Sharon,
What one may brighten Styx's gloom,
Or deck the bark of Charon ?

Fie Fancy ! what a dolorous plight
Anent my lady's guerdon.
A song with love for life and light,
Should have a brighter burden.
If Pyrrha's roses bloomed and died,
Our roses yet are blooming ;
So sweet we'll snatch the season's prime,
Ere Autumn comes a-glooming.

For Love shall live, though lovers pass;
 Flora survives her flowers;
 Each year brings greenness to the grass,
 And blossoms to the bowers.
 We'll trust, while skies are blue above,
 Till Time's last cycle closes,
 That every life shall have its love,
 And every June its roses.

[From Chambers's Journal.

NEWS FROM THE STARS.

BY RICHARD A. PROCTOR, B.A., (CAMBRIDGE,) HON. SEC. R.A.S., AUTHOR OF "THE SUN,"
 "ESSAYS ON ASTRONOMY," "OTHER WORLDS," &c.

FROM time to time, during the last three years, I have brought before the readers of this magazine the various arguments and considerations on which I have based certain new views respecting the constitution of the sidereal universe. In so doing I have had occasion to deal chiefly with facts already known, though not hitherto viewed in that particular light in which I sought to place them. Indeed it is an essential part of my general argument that much that is contained in observations already made has been escaping us. In the eagerness of astronomers to ascertain new facts, they have been neglecting the interpretation of facts already ascertained.

But I have long felt that it would greatly tend to advance the new views which I have advocated, if some process of research, pursued by one of those astronomers of our day who possess the requisite means and leisure for prolonged enquiries, should confirm in a clear and decisive way some definite point of my new theories. Thus, if new observational evidence should be found in favor of my theory that the nebulae are not external to our galaxy, or if new evidence should be obtained to show that the stars are aggregated in certain regions within our system and segregated from others: or again, if my theory of star-drift should be confirmed by new and striking evidence, I felt that a greater measure of confidence in my analysis of former evidence would thenceforward be accorded. I had no occasion, indeed, to complain of cavil or opposition; in fact, a degree of attention had been given to the new opinions I advocated which was cer-

tainly much greater than I had looked for. But there must always be such an inertia in the general weight of opinion in favor of accepted views, that only a steady reiteration of reasoning during a long period, or else some striking and impressive discovery, can cause the weight of opinion to tend in the contrary direction.

I cannot but regard myself as most fortunate in finding the first confirmation of my views coming from one of the most eminent astronomers and physicists of the day, bearing upon one of the most definite and positive of my vaticinations, and relating to one of the most interesting subjects in the whole range of recent astronomical research.

It will be in the remembrance of many readers of this magazine that, nearly four years ago, Dr. Huggins succeeded in showing that the bright star Sirius is travelling at an enormously rapid rate away from us. In other words, besides that rapid thwart motion which is shifting the place of this star upon the heavens, the star has a rapid motion of recession.

It may be permitted to me to mention, also, that while Dr. Huggins's researches were still unannounced (or rather incomplete) I was so far fortunate as to indicate the possibility of employing the very method of research which Dr. Huggins was then engaged (unknown to me) in applying to Sirius. I propose here briefly to describe and explain the method, referring the reader who desires fuller information on these preliminary points to the paper of October 1868. I am the more desirous of doing this, because I find the principle of the method not readily grasped, and

that I conceive the explanation I am about to offer* may remove certain difficulties not uncommonly experienced.

Conceive that a person, standing on the edge of a steadily-flowing stream, throws corks into it at regular intervals—say one cork per second. These would float down the stream, remaining always separated by a constant distance. Thus, if the stream were flowing three feet per second, the corks would be a yard apart (supposing, for convenience of illustration, that each cork was thrown with exactly the same force and in exactly the same direction). Now, if a person a mile or so down the stream saw these corks thus floating past, he could infer that they had been thrown in at regular intervals; and, moreover, if he knew the rate of the stream, and that the corks were thrown in by a person standing at the river's edge, he would know that the interval between the throwing of successive corks was one second. But, *vice versa*, if he knew the rate of the stream, and that the corks were thrown in at intervals of one second, he could infer that the person throwing them was standing still. For let us consider what would happen, if the cork-thrower sauntered up-stream or down-stream while throwing corks at intervals of one second. Suppose he moved up-stream at the rate of a foot per second; then, when he has thrown one cork, he moves a foot up-stream before he throws the next; and the first cork has floated three feet down stream; hence the second cork falls four feet behind the first. Thus the common distance between the corks is now four feet instead of three feet. Next suppose he saunters down-stream at the rate of a foot per second; then, when he has thrown one cork, he moves a foot down-stream before he throws the next; and the first cork has floated three feet down-stream; hence the second cork falls only two feet behind the first. Thus the common distance between the corks is now two feet instead of three feet. It is clear, then, that the person standing a mile or so down-stream, if he knows that the stream is flowing three feet per second, and that his friend up-stream is throwing one cork in per second, can be quite sure that his

friend is standing still if the corks come past with a common interval of three feet between them. Moreover, he can be equally sure that his friend is sauntering up-stream, if the corks come past with a common interval exceeding three feet; and that he is sauntering down-stream, if the common interval is less than three feet. And if, by some process of measuring, he can find out exactly *how much* greater or how much less than three feet the interval is, he can tell exactly how fast his friend is sauntering up-stream or down stream. It would not matter how far down-stream the observer might be, so long as the stream's rate of flow remained unchanged; nor, indeed, would it matter, even though the stream flowed at a different rate past the observer than past the cork-thrower, so long as neither of these two rates were liable to alteration.

Now, we may compare the emission of light-waves by a luminous object to the throwing of corks in our illustrative case. The rate of flow for light-waves is indeed infinitely faster than that of any river, being no less than 185,000 miles per second. The successive light-waves are set in motion at infinitely shorter time-intervals, since for extreme red light there are no less than 458,000,000,000,000 undulations per second, and for extreme violet no less than 727,000,000,000,000; but these specific differences do not affect the exactness of the illustration. It is obvious that all that is necessary to make the parallel complete is that the flow of light-waves shall reach the observer at a constant rate (which is the actual case), and that he shall know, in the case of any particular and distinguishable kind of light, what is the rate at which the wave-action is successively excited, and be able to compare with this known rate the rate at which they successively reach him. If they come in quicker succession than from a luminous body at rest, he will know that the source of light is approaching as certainly as our observer down-stream would know that his friend was sauntering towards him if the corks came two feet apart instead of three feet. If, on the contrary, the light-waves of a particular kind come in slower succession than from a body at rest, the observer will know that the source of light is receding, precisely as the river-side observer would know that his friend was travelling

* I am indebted for the illustration on which is based the explanation which follows, to my friend and college contemporary, Mr. Baily, great-nephew of the eminent astronomer, Francis Baily.

away from him if the corks came past him four feet apart instead of three.

Now, the stellar spectroscopist *can* distinguish among the light waves of varied length which reach him, those which have a particular normal length. He analyses star-light with his spectroscope, and gets from it a rainbow-tinted streak crossed by dark lines. These dark lines belong to definite parts of the spectrum; that is, to such and such parts of its red, or orange, or yellow, or green, or blue, or indigo, or violet portion. Thus they correspond to light having a particular wave-length. And *many* of these lines in stellar spectra are identifiable with the lines due to known elements. For instance, in the spectrum of Sirius there are four strong dark lines corresponding to the known bright lines of the spectrum of hydrogen. Thus the wave-length corresponding to any one of these dark lines is perfectly well known to the spectroscopist from what he has already learned by examining the bright lines of hydrogen. Now, if Sirius were receding very rapidly, the wave-length corresponding to one of these lines would be lengthened; it would correspond, in fact, to a part of the spectrum nearer the red end or the region of longer light waves, and thus the dark line would be shifted towards the red end of the spectrum; whereas, on the contrary, if Sirius were very rapidly approaching, the dark line would be shifted towards the violet end of the spectrum. All that would be necessary would be that the rate of approach or recession should bear an appreciable proportion to the rate at which light travels, or 185,000 miles per second. For, reverting to our cork-thrower, it is clear that if he travelled up-stream or down-stream at a rate exceedingly minute compared with the stream's rate of flow, it would be impossible for the observer down stream to be aware of the cork-thrower's motion in either direction, unless, indeed, he had some very exact means of measuring the interval between the successive corks.

Now the spectrum of a star can be made longer or shorter according to the dispersive power employed. The longer it is, the fainter its light will be; but, so long as the dark lines can be seen, the longer the spectrum is, the greater is the shift due to stellar recession or approach; and, therefore, the more readily may such recession or approach be detected. But, with the

instrument used by Dr. Huggins four years ago, it was hopeless, save in the case of the brilliant Sirius (giving more than five times as much light as any other star visible in our northern heavens), to look for any displacement due to a lower rate of recession than some hundred miles per second (little more than the two-thousandth part of the velocity of light). What was to be done, then, was to provide a much more powerful telescope, so that the stellar-spectra would bear a considerably greater degree of dispersion. With admirable promptitude the Royal Society devoted a large sum of money to the construction of such an instrument, to be lent to Dr. Huggins for the prosecution of his researches into stellar motions of approach and recession. This telescope, with an aperture of fifteen inches, and a light-gathering power somewhat exceeding that usual with that aperture, was accordingly completed, and provided with the necessary spectroscopic appliances. Many months have not passed since all the arrangements were complete.

In the meantime, I had arrived at certain inferences respecting the proper motions of the stars, on which Dr. Huggins's researches by the new method seemed likely to throw an important light.

More than three years ago, I had expressed my conviction that whenever the recorded proper motions of the stars were subject to a careful examination, they would confirm the theory I had enunciated, that the stars are arranged in definite aggregations of various forms—star-groups, star-streams, star-reticulations, star-nodes, and so on.* Making leisure, in the summer of 1869, for entering upon such an examination I was led to several results, which not only confirmed the above-mentioned theory but suggested relations which I had not hitherto thought of. Some of these results are discussed in the article called "Are there any Fixed Stars," already referred to; others are presented in an article called "Star Drift," in the "Student" for October 1870. The special results on which Dr. Huggins's recent discoveries throw light, were first publicly announced in a paper read before the Royal Society, on January 20, 1870.

* See "Notes on Star-Streams," in the "Intellectual Observer" for August 1867, "Notes on Nebulae," in "The Student" for March 1868,"

I had constructed a chart in which the proper motions of about 1,200 stars were pictured. To each star a minute arrow was affixed, the length of the arrow indicating the rate at which the star is moving on the celestial vault, while the direction in which the arrow pointed shows the direction of the star's apparent motion. This being done, it was possible to study the proper motions much more agreeably and satisfactorily than when they were simply presented in catalogues. And certain features, hitherto unrecognised, at once became apparent. Amongst these was the peculiarity which I have denominated "Star drift;" the fact, namely, that certain groups of stars are travelling in a common direction.* This was indicated, in certain cases, in too significant a manner to be regarded as due merely to chance distribution in these stellar motions; and I was able to select certain instances in which I asserted that the drift was unmistakable and real.

Amongst these instances was one of a very remarkable kind. The "seven stars" of Ursa Major—the Septentriones of the Ancients—are known to all. For convenience of reference, let us suppose these seven divided as when the group is compared to a waggon and horses. Thus, there are four waggon-wheels and three horses. Now, if we take the waggon-wheels in sequence round their quadrilateral (beginning with one of the pair farthest from the horses), so as to finish with the one which lies nearest to the horses—these are named by astronomers in that order Alpha, Beta, Gamma, and Delta of the Great Bear. Thus, Alpha and Beta are the well-known pointers (Alpha nearest the pole), and Delta is the faintest star of the Septentrion set. The three horses are called in order Epsilon, Zeta, and Eta; Epsilon being nearest to Delta. Now when the proper motions of these seven stars had been mapped, I found that where-

as Alpha and Eta are moving much as they would if the sun's motion were alone in question, the other five are all moving at one and the same rate (on the star-sphere, that is) in almost the exactly opposite direction. Moreover, a small star close by Zeta (the middle horse), a star known to the Arabian astronomers as the "Test," because to see this star was held a proof of good eyesight, is moving in the same direction and at the same rate as Zeta and the rest of this set. And besides this star (which has also been called Jack by the Middle Horse), Zeta has a telescopic companion which also accompanies him in his motion on the celestial sphere.

After a careful consideration of these circumstances, and an analysis of the probabilities in favor of and against the theory that the concurrence of apparent motion was merely accidental, I came to the conclusion that the five large stars and the two smaller ones form a true drifting set. I found, on a moderate computation, that the odds were upwards of half a million to one against the concurrence being accidental; and since I had recognised other instances of concurrence not less striking, I felt that it was morally certain that these stars belong to one star-family.

The reader will perhaps not be surprised to learn, however, that before publishing this conclusion I submitted it (in July, 1869) to one who was, of all men, the best able to pronounce upon its significance—the late Sir John Herschel. I have the letter (dated August 1, 1869) which he sent in reply before me as I write. The part relating to my discovery runs as follows:—"The considerations you adduce relative to the proper motions of the stars are exceedingly curious and interesting. Of late years catalogues have gone into much detail, and with such accuracy that these motions are of course much better known to us than some twenty or thirty years ago. The community of proper motion over large regions (of which you give a picture in Gemini and Cancer) is most remarkable, and the coincidence of proper motion in Beta, Gamma, Delta, Epsilon, and Zeta Ursæ Majoris most striking. Your promised paper on this subject cannot fail to be highly interesting."*

and "A New Theory of the Universe," in "The Student" for February, March, and April 1869.

* I include this among "features hitherto unrecognised," though Michell had already noted the fact that the stars are arranged into systems. "We may conclude," he said, "that the stars are really collected together in clusters in some places, where they form a kind of systems; whilst in others there are few or none of them, to whatever cause this may be owing, whether to their mutual gravitation or to some other law or appointment of the Creator."

* He proceeds as follows (the passage is removed from the main text as relating to a different branch of the subject):—"I cannot say that I am at all surprised at its being found that the average

In a letter written on May 11, 1870, and referring not to another letter of mine, but to my "Other Worlds," Sir John Herschel remarked, "the cases of star-drift such as that in Ursa Major are very striking, and richly merit further careful examination."

• My first public expression of opinion respecting the star-drift in Ursa Major was conveyed in the following terms:—"If these five stars indeed form a system (and I can see no other reasonable explanation of so singular a community of motion), the mind is lost in contemplating the immensity of the periods which the revolutions of the components of the system must occupy. Mädler had already assigned to the revolution of Alcor around Mizar (Zeta Ursæ) a period of more than 7000 years. But if these stars, which appear so close to the naked eye, have a period of such length, what must be the cyclic periods of stars which cover a range of several degrees upon the heavens?" (From Zeta to Beta is a distance on the heavens of about nineteen degrees.) "The peculiarities of the apparent proper motions of the stars," I added, "lend a new interest to the researches which Dr. Huggins is preparing to make into the stellar proper motions of recess and approach."*

But a few months later, in a lecture delivered at the Royal Institution, I pointed out more definitely what result I expected from Dr. Huggins's researches. "Before long," I said, "it is likely that the theory of star-drift will be subjected to a crucial test, since spectroscopic analysis affords the means of determining the stellar motions of recess and approach. The task is a very difficult one, but astronomers have full confidence that in the able hands of Dr. Huggins it will be successfully accomplished. I await the result with full confidence that it will confirm my views."†

proper motions of stars of small magnitudes is not less than those of large, considering (as I have always done) that the range of individual magnitude (i. e. lustre) must be so enormous that multitudes of very minute stars may in fact be our very near neighbors." Compare my paper on "The Sun's Journey through Space," above referred to, which paper also deals with the point touched on in the next sentence of Sir John Herschel's letter:—"Your remark on the conclusion I have been led to draw relative to the small effect of the correction due to the sun's proper motion, will require to be very carefully considered, and I shall of course give it every attention."

* "Proceedings of the Royal Society," Jan. 20. 1870, pp. 170, 171.

† "Report of the Royal Institution of Great

Britain," Weekly Evening Meeting, Friday, May 6, 1870, p. 7.

It will be manifest that if the five large stars in Ursa are really travelling in the same direction, then, when Dr. Huggins applied the new method of research, he will find that, so far as motion in the line of sight was concerned, these stars were either all receding or all approaching at the same rate, or else that they were all alike in showing no signs of any motion, either of recess or approach.

But in the meantime there was another kind of evidence which the spectroscope might give, and on which I formed some expectations. If these stars form a single system it seemed likely that they would all be found to be constituted alike—in other words, that their spectra would be similar. Not indeed that associated stars always display such similarity. Indeed the primary star of a binary system not unfrequently exhibits a spectrum unlike that of the small companion. But the five large stars in Ursa, being obviously primary members of the scheme they form, might be expected to resemble each other in general constitution. Moreover, since the stars not included in the set—viz., Alpha and Eta—might be regarded as probably very much nearer or very much farther away, it was to be expected (though not so confidently) that these two stars would have spectra unlike the spectrum common (on the supposition) to the five stars.

Now, Secchi announced that the stars of the Great Bear, with the exception of Alpha, have spectra belonging to the same type as the spectrum of the bright stars Sirius, Vega, Altair, Regulus, and Rigel. This result was in very pleasing accordance with the anticipations I had formed, except that I should rather have expected to find that the star Eta had a spectrum unlike that of the remaining five stars of the Septentriones. Moreover, as the stars belonging to this particular type are certainly in many cases, and probably in all, very large orbs* (referring here to real magnitude, not to apparent brilliancy), the inference seemed fairly deducible that the drifting five stars are not nearer than Alpha, and therefore

Britain," Weekly Evening Meeting, Friday, May 6, 1870, p. 7.

* Sirius 4 demonstrably gives out much more light than our sun, and according to the best determinations of his distance he must (if his surface is of equal intrinsic lustre) be from 2000 to 8000 times larger than the sun. Vega, Altair, and Rigel are also certainly larger and may be very much larger than our sun.

(since we have seen that it is unlikely that *all* the Septentriones lie at nearly the same distance) the inference would be that the drifting stars lie much farther away than the rest.

It remained, however, that the crucial test of motion-measurement should be applied.

In the middle of May last I received a letter from Dr. Huggins announcing that *the five are all receding* from the earth. In all the hydrogen line called F, is "strong and broad." In the spectrum of Alpha the line F is "not very strong" (so faint, indeed, Dr. Huggins afterwards informed me, that he preferred to determine the star's motion by one of the lines due to magnesium in the star's atmosphere. He found that Alpha is *approaching*. As to Eta, Dr. Huggins remarked that the line at F is "not so strong or so broad" as in the spectrum of "the five." He was uncertain as to the direction of motion, and mentioned that "the star was to be observed again." He subsequently found that this star is receding. But whereas all the five are receding at the enormous rate of 30 miles per second, Eta's recession was so much smaller that, as we have seen, Dr. Huggins was unable to satisfy himself at a single observation that the star was receding at all.

It will be seen that my anticipations were more than fulfilled. The community of recessional motion was accompanied by evidence which might very well have been wanting—viz., by the discovery that neither Eta nor Alpha shared in the motion. Moreover, the physical association between the five stars was yet further evidenced by the close resemblance found to exist between the spectra of the five stars. Dr. Huggins remarked in his letter, "My expectation had nothing to do with the above results. At the moment, I thought Alpha was included in the group, and was therefore a little disappointed when I found Beta going the opposite way."

We have at length, then, evidence, which admits of no question—so obviously conclusive is it—to show not only that star-drift is a reality but that subordinate systems exist within the sidereal system. We moreover recognise an unquestionable instance of a characteristic peculiarity of structure in a certain part of the heavens. For, though

star-drift exists elsewhere, yet every instance of star-drift is quite distinct in character—the drift in Cancer unlike that in Ursa, and both these drifts unlike the drifts in Taurus, and equally unlike the drift in Aries or Leo. Much more, indeed, is contained in the fact now placed beyond question, than appears on the surface. Rightly understood, it exhibits the sidereal system itself as a scheme utterly unlike what has hitherto been imagined. The vastness of extent, the variety of structure, the complexity of detail, and the amazing vitality, on which I have long insisted, are all implied in that single and, as it were, local feature which I had set as a crucial test of my theories. I cannot but feel a strong hope, then, that those researches which my theories suggest, and which I have advocated during the last few years, will now be undertaken by willing observers. The system of star-gauging, which the Herschels did little more than illustrate (as Sir W. Herschel himself admitted), should be applied with telescopes of different power to the whole heavens,* not to a few telescopic fields. Processes of charting, and especially of equal surface charting, should be multiplied. Fresh determinations of proper motions should be systematically undertaken. All the evidence, in fine, which we have, should be carefully examined, and no efforts should be spared by which new evidence may be acquired. Only when this has been done will the true nature of the galaxy be adequately recognised, its true vastness gauged, its variety and complexity understood, its vitality rendered manifest. To obtain, indeed, an absolutely just estimate of these matters, may not be in man's power to compass; but he can hope to obtain a true relative interpretation of the mysteries of the stellar system. If any astronomer be disposed to question the utility or value of such researches, let him remember that Sir W. Herschel, the greatest of all astronomers, set "a knowledge of the constitution of the heavens," as "the ultimate object of his observations."

[From the *Popular Science Review*.

*This is a work in which telescopes of every order of power would be useful. The observations, also, would be very easily made, and would tell amazingly.

NORWEGIAN POETRY SINCE 1814.

BY EDMUND W. GOSSE.

IT seems a pity that our knowledge of neighboring countries should be limited so much to their merely topographical features. We travel through them by rail or steamer, we talk a little broken English wit hpostboys and boatmen, and we presume that we know something of the nations. But in truth it is but the outermost shell that we can see; of the thought and passion of the people—of their pursuits, and ambitions, and desires—we know no more than the birds do when they fly over their land and rest on their migratory journeys. When a language is limited to a race inconsiderable in numbers, the isolation of its thought from foreigners is, of course, vastly increased. Here in England it is not worth while that many of us should learn such a language as the Dano-Norwegian, spoken by a population less than that of London. Life is too short for many such toilsome lessons, and hence we remain greatly in ignorance of what is being wrought in art and literature among such near neighbors as the Norsemen. Still, I say again, it is a pity, since doubtless in many comparatively small communities there is an intellectual activity, and a positive success in execution, which it would interest us to become acquainted with. I shall endeavor to show that such is the case among the Norwegians.

It would be hard to point out any country in Europe whose condition at the present moment presents a more satisfactory aspect than Norway. It is not perhaps universally known that its constitution is the only one that survives out of all those created or adapted to suit the theories of democracy that prevailed in the beginning of the century. Though accepting the King of Sweden as titular monarch, Norway really rules itself, sends to Christiania a parliament (the Storting), elected from all classes of society, and has not scrupled, on occasion, to overrule the King's especial commands, even at the risk of civil war. There is no hereditary nobility in Norway; no political restriction on the press; hardly any class distinction; and yet, so conservative, so dignified, is the nation, that freedom hardly ever lapses into license, and the excesses which larger

republics permit themselves would be impossible here. It is necessary to preface my remarks on the poetry of Norway with this statement, because the poets there, where they have been poets worth considering, have been also politicians; and I shall be obliged, on this account, to refer now and again to political developments, though I shall hope to make these references as short as possible. The political life of Norway would be in itself a fertile subject to dwell upon.

It is no more than an arbitrary dictum that fixes the rise of Norwegian literature at the date of the Declaration of Independence of 1814. For two centuries past the country had been producing eminent writers, who had attained distinction both as poets and as men of science. The great naturalists of Norway require, and deserve, an abler pen than mine; it is with the poets that I propose to deal. A few of these, such as Peder Dass and Dorthe Engelbrechtsdatter, had preserved in the old days their national character, and sung to the Northmen only; but for the most part the writers of Norway looked to Denmark for their audience, and are to this day enrolled among the Danish poets. Holberg, Wessel, Tullin, Frimann, and a score of others, were as truly Norwegians as Welhaven and Ibsen are, but Copenhagen was the scene of their labors, and Danes were their admirers and patrons, and it is in Danish, not Norwegian, literature that they find their place. Hence it has been the habit of the Scandinavian critics to commence their histories of Norwegian bibliography with the demonstration at Eidsvold, when Norway asserted her independence, and finally separated from Denmark.

The Norske Selskab ('Norwegian Society'), that evil genius and yet, in a measure, protector of the literature it presumed to govern, had now for more than forty years scattered thunderbolts from its rooms at Copenhagen, and ruled the world of letters with a rod of iron. But this singular association, that had nourished Wessel, snubbed Edvard Storm, and hunted Ewald to the death, no longer possessed its ancient force. The glory was departing, and when the rupture with Denmark came about,

the Norske Selskab began to feel that Copenhagen was no longer a fit field of action, and, gathering its robes about it, it fled across the sea, to Christiania, where it dwindled to a mere club, and may, for aught I know, still so exist, a shadow of its former self. But though the Selskab, once dreaded as the French Academy was, no longer had fangs to poison its opponents, its traditions of taste still ruled the public. Accordingly the aspect of affairs in the literary world of Christiania in the proud year of 1814 is at this distance of time neither inspiring nor inviting. Newspapers hurriedly started and ignorantly edited, a theatre where people went to see dull tragedies of Nordal Brun's, or, worse still, translations of tawdry dramas of the Voltaire school, a chaos of foolish political pamphlets; these meet us on every hand, and every sort of writing seems to abound, save that which is the result of fine criticism and good taste. The Selskab admitted but two kinds of poetry—the humorous and the elegiac. Everyone knows what elegies used to be, what a plague they had become, and how persistently 'elegant' and 'ingenious' writers poured them forth. And, indeed, according to the journals of that time in Christiania, every verse-writer was ingenious and every tale-writer elegant. There was a total want of discrimination; every man wrote what was pleasing in his own eyes, and had it printed too; for the newspapers were open to all comers, and no poems were too stupid to be admitted. The whole country went wild with the new-found liberty; like an overdose of exhilarating tonic, freedom threw Norway into a sort of delirium, and all was joyous, confused, and irrational. Out of all this arose a new class of poetry that ran side by side with the elegiac, and after a while overwhelmed it. This has been called *Syttendemai-Poesi*, or poesy of the 17th of May—the day on which Christian was proclaimed King of Norway, and the Storting was finally instituted. This poesy, of course, was intensely patriotic, taking the form of odes to Eidsvold, hymns to Old Norway, and defiance to the world at large. It is tedious, and sometimes laughable if one reads it now; but then it had its significance, and was the inarticulate cry of a young, unsatisfied nation.

Out of the froth and whirl of the *Syttendemai-Poesi* the works of three poets rise

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and take a definite shape. These claim particular notice, mainly because of their real worth, but they gained it at the time, perhaps, more by the extraordinary zeal with which they stood by and puffed one another. They have been called the Trefoil, so impossible is it to consider them separately; and in this triplicity of theirs they formed a considerable figure in their day. I speak of Schwach, Bjerregaard, and M. C. Hansen. The first-mentioned was the most admired then, and is the least regarded now. C. A. Schwach was born in a village by the shores of Lake Mjøsen in 1793, and, after holding a high official position at Trondhjem for a great many years, died at Skien in 1860. His poems, originally printed in stray newspapers, were collected in three great volumes. They are very dull, being for the most part occasional verses called forth by events which are now entirely forgotten. Schwach, once the idol of the clubs and the popular poet of the day, is now seldom read and never reprinted; he exists mainly as the author of one or two popular songs that have not yet lost their charm. Bjerregaard was a man of far higher talent than Schwach; there was more melody in his heart than on his tongue; his lyrics have still some music about them, and some dewiness and sparkle. His countrymen usually class him as a poet below Hansen, and if we include, as they do, novels and all sorts of æsthetic writing as part of a poet's vocation, they are doubtless right, for Hansen won great fame as a writer of romances; but in poetry proper I must, for my own part, set Bjerregaard far higher than his friends as a master of the art. He had greater reticence than they, and a brighter touch; he even had some desire for novelty in the matter of versification, and wrote in *terza rima* and other new metres. He produced a tragedy, too, *Magnus Barfods Sønner* ('Magnus Barfoot's Sons'), which, I am bound to say, I have found wonderfully dreary. He was happiest in lyrical writing; I may point in passing to his pretty verses *Vinterscener* ('Winter Scenes'), in the small collected edition of his works. He was born in the same village as Schwach was, but a year earlier, and died in 1842. M. C. Hansen, a prolific writer of novels, published exceedingly little verse, of an artificial and affected kind. Glancing down his pages, one notices such titles as *The Pearl*, *The*

Rainbow, Nature in Ceylon, and easily gathers the unreal and forced nature of the sentiment he deals in. His romances are said to be of a far better character, and he led the van of those happy innovators who turned to the real life of their humbler countrymen for a subject for their art. For this discovery, the beauty that lies hidden in a peasant's life, we must thank Hansen, and forgive his poetical sins. He died a few days before his friend Bjerregaard, and Schwach collected his works in eight huge volumes.

If there were nothing better in Norwegian poetry than the writings of these three friends, it would not be worth while to catalogue their tedious productions, and the reader might wisely turn away to more inspiring themes. But it is not so; this early period of Syttendemai-Poesi is but the ridge of lightblown sand over which the traveller has to toil from his boat till he reaches the meadows and the heathery moorlands beyond. We come now to a poet whose genius, slowly developing out of the chaotic elements around it, took form, and color, and majesty, till it lifted its possessor to a level with the noblest spirits of his time.

Henrik Arnold Thaulov Wergeland was born at Christianssand in 1808, and was the son of a political pamphleteer who attained some prominence in the ranks of the popular party. The father was one of the original members of the Storting, and consequently the earliest years of the poet were spent at Eidsvold, in the very centre of all the turmoil of inexperienced statesmanship. Eidsvold was the vortex into which the bombast and false sentiment of the nation naturally descended, and it is impossible to doubt that the scenes of his boyhood distinctly infused into Wergeland's nature that strong political bias that he never afterwards threw off. By-and-by the lad went up to the University of Christiania, and entered heart and soul into the caprices of student life; his excesses, however, seem to have been those of eccentricity and mischievousness, for neither at this time nor ever after through his chequered life did he lose that blameless character the sweetness of which won praise even from his enemies. It was about this time that he fell in love with a young lady, whom he had seen once only, and that in the street. He named her Stella, and, being unable to find her address, wrote daily

a letter to her, tore it up, and threw it out of window. His landlady remarked that the apple blossom was falling early that year. This ideal love for 'Stella' woke the seeds of poetry in him; he began to versify, and soon, forgetting Stella, worshipped a still less tangible but more important mistress, the Muse Thalia herself.

The first work published by the afterwards eminent poet was *Ah!* a farce. It is usual with his admirers to pass over this and his other boyish productions in silence, but it is undoubtedly a fact that after the appearance of *Ah!* in 1827, he wrote a great number of farces in quick succession. These farces were successful, too, and the boy dramatist began to be talked of and admired; there were not wanting those even who called him 'The Holberg of Norway,' forgetting, it would seem, that Holberg himself, the inimitable, was a Norwegian. That Wergeland himself did not prize these trifles very highly would seem from his publishing them under an Arabic pseudonym—*Siful Sifadda*. Those who have read them speak of them as not altogether devoid of fun, but sounded principally on passing events, that have lost all interest now. But in 1828 he wrote a tragedy—*Sinclair's Død* ('Sinclair's Death')—and in 1829 issued some lyrical poems that showed he had distinct and worthy aims in art. These poems had an immense success; they were brimful of tasteless affectations and outrages of rhythm as well as reason, but they were full, too, of Syttendemai enthusiasm, and they spread through the country like wild fire. Wergeland became the poet of the people; his songs were set to music and sung in the theatres; they were reprinted in all the newspapers, and sold in halfpenny leaflets in the streets. Every 17th of May the people gathered to the poet's house, and shouted, 'Hurrah for Wergeland and Liberty!' His mild face, beaming behind great spectacles, his loose green hunting coat and shuffling gait, were hailed everywhere with applause. There are real and great merits about these early poems; they show some true knowledge of nature, some lyrical loveliness; but it was not for these, it was rather for the defiance of all laws of authorship, that the people of Christiania adored him. In 1830 he published *Skabelsen, Mennesket og Mesias* ('The Creation, Man and the Messiah'), a drama of elephantine proportions. This portentous

poem caused great diversion among the poet's enemies, and was the actual cause of an attack upon him, which ultimately divided the nation into two camps, and revolutionized the literature of Norway.

In 1831 there appeared in one of the papers a short anonymous poem 'To H. Wergeland,' which was chiefly remarkable for the sharpness of its satire and the extreme polish of its style. It was not in the least degree bombastic or affected, and consequently was a novelty to Norwegian readers. It lashed the author of *Skabelsen* with a pitiless calmness and seeming candor that were almost insufferable.

For years past a section of society had been developing itself in Christiania whose interests and aims lay in a very different channel from those of the great bulk of the populace. These persons, of conservative nature, saw with regret the folly of much of the noisy mock-patriotism current; they sighed for the old existence, when the cliques of Copenhagen quietly settled all questions of taste, and if there was little fervor there was at least no bathos. The leading spirit of this movement, which may be called the Critical, was J. S. Welhaven, a young man who, born at Bergen in 1807, but early a student at the capital, had watched the career of Wergeland and had conceived an intense disdain for his poetry and his friends. It was he who, at last, had let fly this lyric arrow in the dark, and who had raised such consternation among the outraged patriots. Wergeland replied by another poem, and a controversy insensibly sprang up. In 1832 Welhaven published a thin book—*H. Wergeland's Poetry*—which at once raised a howl from all the popular journalists and marks an era in literature. It consists of a calm and exasperating anatomy of the poet's then published writings, as withering and quite as amusing as Lord Macaulay's Essay on Robert Montgomery. It is even more bitter than this, and far more unjust, since the subject of it was a real poet and not a mere charlatan in verse. Still, with all his absurdities extracted and put side by side, Wergeland does cut a pitiable figure indeed, and one is tempted to forgive the critic when, throwing all mercy to the winds, he pours forth a torrent of eloquent invective, beginning with the words, 'Stained with all the deadly sins of poesy,' and ending with a consignment of the author to the 'mad-

house of Parnassus.' Among the numerous replies called forth by this attack, the most notable was one by the poet's father, N. Wergeland, but his pamphlet, though doubtless able in its way, has nothing of the brilliant wit of Welhaven's little *brochure*. Meanwhile the outraged poet himself, who throughout the controversy seems to have behaved with great discretion, continued to attend to his own affairs. In 1831 he published *Opium*, a drama, and in 1833 *Spaniolen*, a charming little poem, which shows a great improvement in style, and proves the beneficial effect of the criticism brought to bear on him. Still the mild-eyed man sauntered dreamily about in his loose green coat, but now he was less often seen in the streets, for, having bought a small estate just out of Christiania, he gave himself up to a passion for flowers, and to a grotto of great size and ingenuity. Poetry was the business of his life, and his spare hours were given to his grotto and his flowers. The great controversy began to take a national character, and when, in 1834, Welhaven published his polemical poem of *Norges Dæmring* ('Norway's Twilight') there was no longer any personal character in his attacks. In that exquisite cycle of sonnets he laid bare all the roots of evil and folly that were deadening the heart of the nation, and with a pitiless censure struck at the darling institutions of the national party. He called for a wider patriotism and a healthier enthusiasm than the frothy zeal of the Syttendemai demonstrations could show, and in verse that was as sublime as it was in the truest sense patriotic, he prophesied a glorious future for the nation, when it should be led by calmer statesmen, and no longer beaten about like an unsteady ship by every wind of faction. Then Norwegians would estimate their own dignity justly; then poetry and painting, journalism and statesmanship, all the arts and sciences, would join to form one harmonious whole, and the young nation grow up into a perfect man. Then, winding up his argument, he cries—

Thy dwelling, peasant, is on holy ground;
What Norway was, that she again may be,
By land, by sea, and in the world of men!

The publication of *Norges Dæmring* naturally enough called forth a still louder protestation from the popular leaders, and the battle raged fiercer than ever. No

longer was it the principal champions who led the fight; these retired for a while, and their friends took up the cause. Sylvester Sivertson, a poor imitator of Wergeland, frantically attacked *Norges Dæmring*, and Hermann Foss, a new convert to the critical party, as stoutly defended it; and so matters went on till about 1838.

From this time misfortunes fell upon Wergeland in ever increasing severity. One by one the lights all faded out of his life, and left it wan and bare. First of all he lost an official position which brought him in a considerable income. This office the king, the unpopular John, in a moment of whim, deprived him of. Still the profits of his poems and the sums brought in by his theatrical writings were enough to keep him in comfort. The loose green coat was seen wandering about his garden more than ever. But in an unlucky moment King John repented of his haste, and ordered the poet a certain pension from the State. Wergeland consented to take the money only on the express condition that he was to be allowed to spend it all in the formation of a library for the poor; but, alas! only half of this transaction was known to the public, and in the newspapers of the next week Wergeland found himself stigmatised by his own friends as 'the betrayer of the Fatherland.' So intensely unpopular was King John, that to receive money from him was to receive money, it was considered, from an enemy of the nation, and by a sharp revolution of Fortune's wheel the popular poet became the object of general distrust and disgrace. It is vain to argue against a sudden fancy of this kind; the remonstrances of Wergeland were drowned in journalistic invective; and the grief and humiliation acted so injuriously on the poet's irritable nerves, that he fell into confirmed ill-health, and from this time rapidly sank towards death. There followed other sorrows that made these inner troubles still less bearable. The poet became involved in a tedious law-suit which drained his finances so completely that the pretty country house, the grotto, and the beloved flower-beds had to be relinquished, and lodgings in town received the already invalided Wergeland. Shattered in body and estate, forsaken and misjudged by his countrymen, it might have been expected that the mind of the

man would have been depressed and weakened, but it was not so. In a poem of this very time, he says:

My house and ground,
My horse and hound,
Have passed away and are not found;
But something yet within me lies
That law and lawyer's touch defies.

And it was just at this very time, when he was bowed down with adversity, that the singing faculty in him burst forth with unprecedented vigor, and found a purer and juster expression than ever before. The last five years of his life saw his genius scatter all the clouds and vapors that enveloped it.

The first of these swan-songs was *Jan van Huysums Blomsterstykke* ('J. van Huysum's Flower-piece'), a series of lyrics with prose interjaculations. This is by far the most beautiful of his political poems—for such it must be called, being thoroughly interpenetrated by his fiery republicanism. No poet has decked the bare shell of politics with brighter wreaths than Wergeland; and it must be remembered that while in the mouth of an English poet these principles are dreamy and Utopian, to a Norwegian of that time they were matter of practical hope. And though Wergeland did not live to see it, there soon came a time when, King John having passed away, the high-minded Oscar permitted those very alterations in the Constitution which the popular party were sighing for. In *Jan van Huysums Blomsterstykke* the poet takes a flower-piece of that painter's cunning workmanship, and gazes at it till it seems to start into life, and the whole mass—flowers, insects, and the porcelain jar itself—becomes a symbol of passionate humanity to him. The blossoms are souls longing for a happier world; here the poppies cry for vengeance like bubbles of blood from the torn throat of some martyr for liberty; here the tulips flame out of their pale-green sheaths like men who burst their bonds and would be free; roses, columbines, narcissi, each suggest some brilliant human parallel to the poet, and all is moulded into verse that is melody itself. One rises from reading the poem as from studying some exquisite piece of majolica, or a page of elaborate arabesques; one feels it never can be as true to one's own faith as it was to the writer's, but one regards it as a lovely piece of art, shapely and well pro-

portioned. It was presented as a *bouquet* to Fredrika Bremer.

The next year saw the publications of *Svalen* ('The swallow'), a poem suggested by the bereavement of the poet's excellent sister Augusta. It was 'a midsummer morning story for mothers who have lost their children,' and was sent to cheer the downcast heart of his sister. It is one of the most ethereal poems ever written; a lyrical rhapsody of faith in God and triumph over death. By this time the author was himself upon his death-bed, but he lingered a few years yet, long enough to see his popularity slowly return, and to hear again the *vivats* of the people on the 17th of May. It was not his own troubles but the grievances of a down-trodden people, that filled his last thoughts. By the laws of Norway no Jews whatever, under heavy penalties, might settle in the realm, and the hearts of high-minded men were exercised to put an end to this injustice. In 1842 Wergeland published *Föden* ('The Jew'), an idyllic poem 'in nine sprays of blossoming thorn,' or cantos, in which the cause of the Hebrew outcasts was eloquently pleaded. The work created a great deal of excitement, and, to clinch the nail he had struck in, the poet produced, in 1844, *Födinden* ('The Jewess'), in 'eleven sprays of blossoming thorn.' These powerful poems, accompanied by prose writings of a similar tendency, produced the desired affect, and the restriction was, in the course of a few years, removed.

But it was not for Wergeland to watch this consummation. Already the darkness of death was gathering round his bed, though the strong brain lost none of its power and the swift hand increased in cunning. A few months before the end his last and greatest poem appeared—*Den engelske Lods* ('The English Pilot')—in which all his early life of travel and excitement seems to have passed before his eyes and to have been photographed in verse. There is no trace of depression or weakness; it is not the sort of book a man writes upon his death-bed; it is lively and full of incident, humorous and yet pathetic. The groundwork of the piece is a reminiscence of the poet's own visit to England many years before. Kent, Brighton, the Isle of Wight, and the 'Hampshire-Fjord' are drawn in rose color by an only too enthusiastic pen, and the idyllic story that

gives title to the whole—namely, the loves of Johnny Johnson and Mary Ann—is interwoven skilfully enough. The only drawback is that the poet, whose English was defective, must needs preserve the local coloring by hauling bits of our language, or what he supposed it to be, bodily into his verse. Such a passage as this, coming in the middle of an excited address to Liberty in England, breaks down one's gravity altogether:

Ho! Johnny, ho! how do you do?
Sing, Sailor, oh!
Well! toddy is the sorrows' foe!
Sing, Sailor, oh!

It should be a solemn warning to those who travel and then write a book not to quote in the language of the country.

He sank slowly but steadily. At last, on the 12th of July, 1845, as his wife stood watching him, his eyes opened, and he said to her, 'I was dreaming so sweetly; I dreamed I was lying in my mother's arms,' and so he sighed away his breath. His funeral was like that of a prince or a great general; all shops were shut, the streets were draped with black flags, and a great multitude followed the bier to the grave. When the coffin was lowered a shower of laurel crowns was thrown in from all sides. So passed away the most popular of northern poets in the 38th year of his life.

Welhaven's poetical activity reached its climax during the ten years that followed the death of Wergeland. His poems have been exclusively lyrical pieces of no great length, *Norges Dæmring* being the only long poem he has attempted. He is singular, too, among Norwegian writers for having never at any part of his life written for the stage. His prose is as carefully elaborated as his verse, and is probably the most brilliant and finished in the language, or at least in Norwegian literature. His great mission seems to have been, like that of Lessing in Germany and Rahbek in Denmark, to revolutionise the world of taste and institute a great new school of letters, less by the production of fine works of art from himself than by the introduction of sound canons of criticism for the use of others. His most important prose work is *Ewald og den norske Selskab* ('Ewald and the Norwegian Society'), a series of critical biographies of the highest interest. Welhaven still lives, though in shattered health, to grace the nation that

owes so much to him. In him the critical spirit comes to perfection, as in Wergeland the spontaneous; the latter had much of the flabby mental texture of Coleridge—a soft woollen fabric shot through with gold threads—the former is all cloth of silver. Of all the voluminous writings of Wergeland only his death-bed poems (forming the latter half of the third volume of his collected works) will be read in future times; the sparse words of Welhaven will all be prized and enjoyed. The former will inspire the greatest enthusiasm and the latter the deepest admiration.

An individual who deserves a few moments' attention before we pass on is M. B. Landstad, who was born as long ago as 1802, in a little cluster of houses just under the North Cape. We regard the little town of Hammerfest as the most hyperborean place in the world, but to young Landstad in his arctic home Hammerfest must have seemed a centre of southern luxury. One needs to have glided all day, as I have done, among the barren creeks and desolate fjords of Finmark to appreciate the vast expanse of loneliness—a very Deadman's Land—that lay between the lad and civilisation. I wish his poems were better, for the sake of the romance; but in fact he is a rather tame religious poet, and would in himself claim no notice at all, were it not that he has undertaken two great labors which have had a bearing on the poetical life of the country. From 1834 to 1848 Landstad was pastor of a parish in the heart of Thelemarken, the wildest of all the provinces of Norway, and he occupied his spare time in collecting as many as he could of the national songs (*folkeviser*) which still float in the memories of the peasantry. He published a very large collection, in rather a tasteless form, in 1853; but though the work is too clumsy for common use, it has proved of the greatest service as a storehouse for more critical students of the old Norse language. Too much praise, however, must not be accorded to him even on this score, for Asbjørnsen and Moe were in the field ten years earlier, as we shall see farther on in our history. Another great labor of Landstad's was the compilation of a psalm book for general use in churches, to supersede the various old collections. Our arctic poet, whose fault ever is to be too diffuse, produced his psalm book, at Government expense, on a scale so huge

as to be quite unfit for the use for which it was intended. Still, like the *Folkeviser*, it forms a useful storehouse for others to collect what is valuable from, and still continues to be the standard edition of religious poetry.

In Cowley's comedy of *The Guardian* a poet is introduced, who is so miserable that everything he sees reminds him of Niobe in tears. 'That Niobe, Doggrell, you have used worse than Phœbus did. Not a dog looks melancholy but he's compared to Niobe.' So is it with the person that meets us next upon our pilgrimage. Nothing ever cheers or enlivens him; at the slightest excitement he falls into floods of genteel grief, and when other people are laughing he is thinking of Niobe. Andreas Munch, a son of the poet-bishop of Christianssand, was born in 1811, and through a long life has been the author of a great many lyrical and dramatic volumes. After the turmoil of Syttendemai-Poesi and the rage of the great critical controversy, it was rather refreshing to meet with a poet who was never startling or exciting, whose song-life was pitched in a minor key, and whose personality seemed moist with dramatic tears. If he had no great depth of thought, he had at least considerable beauty of metrical form, and was always 'in good taste.' A bishop's son always has an advantage over ordinary mortals, and Andreas Munch basked in universal popularity. He was called 'Norway's first skald,' but whether first in time or first in merit would seem to be doubtful. It was not till 1846 that he published any work of real importance, and in that year appeared *Den Eensomme* ('The Solitary'), a romance founded on the morbid but fascinating idea of a soul that, folding inward upon itself, ever increasingly shuns the fellowship of mankind, while the agonies of isolation rack it more and more. The scene of the story is laid in modern times, and an additional horror is by that means given to an idea which, though it would hardly have presented itself to any but a sickly mind, is carried out with skill and effect. Shortly upon this followed another prose work of considerable merit—*Billeder fra Nord og Syd* ('Pictures from North and South')—which had a great success. In 1850 he printed *Nye Digte* ('New Poems'), which are the prettiest he has produced, and mark the climax of his literary life. The melancholy tone of these poems does

not reach the maudlin, and goes no farther than the shadowy pensiveness of which Ingemann had set the example. All through life Munch has been strongly influenced by the works of Ingemann, whose most consistent scholar he indeed is.

Even here, however, we feel that there is want of power and importance; these are only verses of occasion. 'Miscellany poems,' as our great-grandfathers called them, the world has seen enough of; it is a grave error for an eminent writer to add to their number.

With the year 1852 begins Munch's period of greatest volubility. It would be a weariness to enumerate his works, but there are two that we must linger over, because of their extreme popularity, and because they are the very first works a novice in Norwegian is likely to meet with; I mean the dramas *Solomon de Caus* and *Lord William Russell*. The first of these was published in 1855, and caused a sensation not only in Scandinavia, but as far as Germany and Holland. De Caus was the man who discovered the power of steam, and who was shut up in a mad-house as a reward for his discovery. There is decidedly a good tragical idea involved in this story, and Munch deserves praise for noticing it. But his treatment of the plot leaves much to be desired, and a religious element is dragged in, which is incongruous and confusing. The poem is fairly good, but when so much has been written about it, praising it to the skies, one is surprised, on a closer inspection, to find it so tame and unreal. Of a better order of writing is *Lord William Russell*, 1857—on the whole, perhaps, the best work of Andreas Munch's—well considered, carefully written, and graceful. But there is, even here, little penetration of character, and the worst fault is that the noble figure of Rachel Russell is drawn so timidly and faintly, that the true tragical heart of the story is hardly brought before us at all. Lady Russell, it is true, constantly walks the stage, but she weeps and sentimentalises, describes the landscape, and cries, 'Fie, bad man!'—does everything, in fact, but show the sublime heroism of Russell's wonderful wife. The dialogue is without vigor, but it is purely and gracefully written; and, to give the author his due, the play is a really creditable production as modern tragedies go. But no one that could read Ibsen would linger over Munch;

we are about to introduce a dramatist indeed.

We have still a little way to go before we reach the real founder of the Norwegian drama. We must follow Niobe a little farther. Andreas Munch has continued almost to the present date to issue small volumes of lyrics in smart succession. Gradually he has lost even the charm of form and expression, and his best admirers are getting weary of him. In truth, he belongs to the class of graceful sentimentalists that Hammond and L. E. L. successively represented with us, and his works can hardly fail to go down into limbo with theirs. One of his latest labors has been to translate Tennyson's *Enoch Arden* very prettily. Indeed, in pretty writing he is unrivalled.

Andreas Munch fills up the interval of repose between the old political poetry and the new national school. For all their loud talk about patriotism, Wergeland and the rest had never thought of taking their inspiration from the deep wells of national life around them, or from the wealth of old songs and sagas. Where this had been done, it had been in imitation of *Øehlenschläger*, and not prompted by a general impulse from home. But everything that was healthy and rich in promise was to come from the inner heart of the nation, and the real future of Norwegian art was to be heralded not by Munch's love-sick sonnets, but by the folk-songs of Moe, the historical dramas of Ibsen, and the peasant romances of Bjørnsterne Bjørnsen. The man that opened the eyes of students and poets, and heralded this revolution in art, was not a poet himself, but a zoologist—P. C. Asbjørnsen.

This gifted man was born at Christiania in 1812; he early showed that bias for natural history which is so common in his countrymen, and being of a brisk temperament, has spent most of his life in wandering over shallow seas, dredging and investigating. On this mission he sailed down the Mediterranean Sea, and has spent a long time in exploring the rich fields that lie before a zoologist on the coasts of Norway itself. But some part of every man's life has to be spent on shore, and these months Asbjørnsen dedicated to investigations of a very different kind; he searched among the peasants for stories. Just about that time there was a wide-spread desire to save the remnants of popular legend before it was too late. The Finnish scholars were

collecting the Kalewala; the Russians were hunting up those wild songs of which Mr. Ralston has so lately given us an English selection; Magyar and Servian poetry was being carefully amassed. It occurred to Asbjørnsen to do the same with the mythology of Norway. Starting from Bergen, he strolled through the magnificent passes of the Justedal and the Romsdal, drinking in the wild beauty of the scenery till it became part of his being, and gossiping with every peasant he could meet with. When a boatman ferried him across the dark fjord, he would coax a story from him about the spirits that haunt the waters; the postboys had fantastic tales to tell about the trolls and the wood spirits; the old dames around the fire would murmur ancient rites and the horrors of old superstition. When the peasant was shy and would not speak, Asbjørnsen would tell a story himself, and that never failed to break the ice. When he had wandered long enough in the west, he crossed the Dovretjeld, and explored the valleys of Osterdal, lying along the border of Sweden. The results of his labors and those of the poet Jørgen Moe, were published jointly in 1841, as *Norske Folkeeventyr* ('Norwegian Popular Tales'), a book that made little impression at the time, but which has grown to be one of the bulwarks of Norwegian literature, and which, besides winning for its principal author a European fame, has had a profound influence on the younger poets of our day.

Jørgen Moe, whom we have just seen helping Asbjørnsen to collect folk-stories, is himself a poet of no mean order. His nature is not active and joyous like that of his associate; he would seem to be one of those diffident and sensitive natures, whose very delicacy prevents their pushing their way successfully into public notice. Violets, for all their ethereal perfume, are easily overlooked, and Jørgen Moe's works are as small, as unassuming, as exquisite as violets. The book he is best known by is a thin volume of poems, brought out in 1851; they have nothing about them to attract particular notice till one falls into the spirit of them, and then one is conscious of a wonderful melody as of some Ariel out of sight—a sense of perfect simple expression. The reader is transported to the pine-fringed valleys; he sees the peasants at their daily work, he hears the cry of the waterfalls, and forgets all the humdrum ex-

istence that really lies about him. These verses have a power of quiet realism that is strangely refreshing; if any one would know what Norway and its people really are, let them read Moe's little lyrical poems.

We now reach the name which stands highest among the poets of the new school, a star that is still in the ascendant, and on whom high hopes are built by all who desire the intellectual prosperity of Norway. Henrik Ibsen is a man who, through all difficulties, from within and without, has slowly lifted himself higher and higher as an artist, and is now in the full swing of literary achievement. He was born in 1828 in humble circumstances, and began life as an apothecary; by-and-by he managed to study at the University and had an honorable course of student life. Here he was noticed and admired by the eminent violinist Ole Bull, who introduced him at the theatre in Bergen, of which theatre he speedily became literary director. The same year (1851) saw the publication of his first book, *Catalina*, a Roman tragedy in blank verse, containing a certain amount of promise, but no character of style or definite bias. It was quite a boy's book though the author was twenty-three, for Ibsen's genius had reached maturity very slowly. For several years he published nothing; 1856 saw the publication of the first of a series of national dramas; namely, *Gildet paa Solhoug* ('The Banquet at Solhoug'). This play, in blank verse, shows an advance in dramatic knowledge over *Catalina*, but it is far from satisfactory. It had the effect, however, of drawing attention to the writer, and he was invited to take the direction of the National Theatre at the Capital. His diploma work, so to speak, on entering Christiania was *Fru Inger til Osteraad* ('Mistress Inger at Osteraad'), a tragedy that shows an immense advance on *Gildet paa Solhoug*. It is written in prose, and is a lively picture of Norse life at the beginning of the sixteenth century. *Fru Inger* holds the fortunes of the popular party of the day in her hand; she has opportunities and resources, but she fails through lack of courage, and her vacillation between duty and inclination forms the centre-point of a very subtle and carefully worked-out piece of dramatic writing. It has been Ibsen's way through life, as in the case of many great poets, to rise slowly into the full exercise of his powers. In each successive drama we find

a more ample expression and greater audacity of thought than in the one before it. *Hærmændene paa Helgeland* ('The Warriors at Helgeland') followed in 1858, with a fresh series of scenes from old Norse history, given with wonderful vigor and precision. This again was written in prose; it seems as though Ibsen were determined to learn the art of subjugating the language to his will before he would launch out again on the perilous ocean of verse. It was this drama that made his fame; all just and discerning critics perceived that *Hærmændene* was the first truly national play that Norway had produced, and though some of the reviews resolutely ignored him, the people acknowledged him, and from this time forth he easily won his way. After a silence of four years he came forward again with *Kjerlighedens Komedie* ('The Comedy of Love'), a piece in quite a new style—satirical, humorous, and lyrical—written in rhymed verse, a brilliant lampoon on the conventional ideas upon love and marriage. This increased his reputation still more, and introduced him to the public of Denmark and Sweden. He wrote now with perfect ease and courage, and the language began to show a flexibility and scope in his hands, which it had never shown before. All these years Ibsen was publishing from time to time small lyrical poems in the newspapers of the day, and winning much praise for these, though it must be confessed his occasional lyrics do not show that originality and brilliance that flash from his dramas. In 1864 another tragedy from the Middle Ages appeared from this eminent writer—*Kongs-Emnerne* ('The Pretenders'), which was translated into German, and had great success. The same year he went to Rome, and, while living there under the influence of all that was exquisite and inspiring, he evolved a dramatic satire of such wonderful power and beauty that all his previous writings were thrown into the shade by it. This work, which lashes the religious coldness of the Norway of our own day, is named from its hero, *Brand*, and appeared in 1866. It was at once recognised all over Scandinavia and in Germany as being a masterpiece in a most difficult school of art. It is written in octosyllabic rhyming verse, broken by songs. As an example of Ibsen's lighter vein, and to break the monotony of my own remarks, I will give one of these:

Ille.

Agnes, my exquisite butterfly,
I will catch you sporting and winging;
I am weaving a net with meshes small,
And the meshes are my singing.

Hæc.

If I am a butterfly, tender and small,
From the heather-bells do not snatch me;
But if you are a boy, and are fond of a game,
You may hunt, though you must not catch me!

Ille.

Agnes, my exquisite butterfly,
The meshes are all spun ready;
It will help you nothing to flutter and flap;
You are caught in the net already.

Hæc.

That I am a butterfly, bright and young.
A swinging butterfly, say you?
Then, ah! if you catch me under your net,
Don't crush my wings, I pray you!

Ille.

No! I will daintily lift you up,
And shut you into my breast;
There you may shelter the whole of your life,
Or play as you love best.

Two years later appeared *Peer Gynt*, a poem on the same principle as *Brand*, but even wilder and more audacious. The scene is professedly laid in Norway; but we find ourselves carried to the coast of Morocco, galloped through the Great Sahara, and landed in Egypt, with the statue of Memnon as one of the *dramatis personæ*. *Peer Gynt* is a sharp satire on the social ethics of the day; and though it had a brilliant success, there were many who felt extreme indignation at the poet's tone. But a patriot of the truest sort does not always think it wise to touch abuses with kid gloves on, and a little wholesome ridicule is an excellent cure for some social disorders. The controversy that issued on the publication of this poem has been likened to the storm roused of old by *Norges Dæmring*. In 1870 a comedy in prose—*De Unges Forbund* ('The Young Men's League')—came from the fertile pen, and was published at Copenhagen, while the author was visiting Egypt, to verify, perhaps, the scenes in *Peer Gynt*. Last year he collected the miscellaneous short poems of the last fifteen years into a little volume, which he sent home from Saxony. He has been a wanderer all his days.

The name and fame of Björnsterne Björn-sen have spread farther over the world's

surface than that of any of his countrymen. Though he is still young — the youngest of all the Norwegian poets — his works are admired and eagerly read all over the north of Europe, and are popular in America. It is as a romance writer that he has met with such unbounded distinction. Who has not read *Arne*, and felt his heart beat faster with sympathy and delight? Who has not been refreshed by the simple story of the *Fisher Girl*? It seemed as though every kind of story writing had been abundantly tried, and as though a new novel must fall upon somewhat jaded ears. But in Bjørnsen one discovered an author who was always simple and yet always enchanting; whose spirit was as masculine as a Viking's and as pure and tender as a maiden's. Through these little romances there blows a wind as fragrant and refreshing as the odor of the Trondhjem balsam willows, blown out to sea to welcome the new-comer; and just as this rare scent is the first thing that tells the traveller of Norway, so the purity of Bjørnsen's *novettes* is usually the first thing to attract a foreigner to Norwegian literature.

But it is only with his poems that we have here to do. While in his stories he deals with peasant life, so in his dramas he draws his afflatus from the rich hoard of antique sagas. *Mellem Slagene* ('Between the Battles') was the first of these saga plays. It is very fine. Two married folks — Halvard and Inga — once deeply in love with one another, begin mutually to tire, and to long, the man for the old wild, fighting life, the woman for her pleasant maiden days with her father. They get entangled in misconceptions, and a reserve creeping in on both sides parts them more and more. 'Silence slays more than sharp words do,' is the motto of the piece, a motto very suggestive to the undemonstrative people of the north. The two principal figures, and also that of King Sverre, are very keenly drawn. In 1858 there followed *Halle Hulda* ('Lame Hulda'), the story of a girl who has lived to be four-and-twenty, loveless and unloved, full of grief and physically incapacitated by her lameness, and who suddenly falls into passionate and hopeless affection for a man she meets. Here again we have a dramatic situation, subtly chosen, original, and carefully worked out. *Kong Sverre* was the next

of these saga dramas, wherein the King Sverre, who acted a secondary part in *Mellem Slagene*, becomes chief and centre of interest. Much of the latter, however, gathers around the bishop, Nicolaus, one of Bjørnsen's most skilful pieces of figure painting. *Sigurd Slembe* (1862) closes the list of saga dramas. The author turned next to modern history, and published in 1864 *Maria Stuart i Skotland* ('Mary Stuart in Scotland'), a piece which unfortunately suggests comparison with Schiller and other poets; it is written in prose. It could be wished that Bjørnsen had chosen some less hackneyed subject. His next effort was in quite a different line: *De Nygifte* ('The Newly-married Couple') is a little prose comedy in high life. The hero having fallen violently in love with a girl too young to understand his character, finds out too late that she has no notion of the responsibilities of married life, and still prefers her parents to himself. He tries to cure her by wrenching her suddenly from all old associations, and though she is very sullen for a while, he is victorious at last, and wins her love. Bjørnsen has hardly allowed himself enough space in this little drama; the evolution of character is hurried by the shortness of the scenes; but it is nevertheless ably written. Lately he has published a volume of Songs and Poems.

With this writer we will draw our survey of Norwegian poetry to a close. Nothing has been said here about the verse written in the dialect of the peasants, which the great linguist Ivar Aasen, by moulding with the old Norse, has made a sort of new language of. This peasant Norse has a galvanic life imparted to it by the exertions of its inventor, and a good poet (K. Janson) has been found enthusiastic enough to write exclusively in it. The chief motive of the movement seems to be to make Norwegian literature more remote and undecipherable than ever; at least, such would be the effect if the enterprise succeeded. The creator of this language of the future, Aasen, is a man of high and versatile genius, and has himself contributed several poems to the new literature. For the rest its principal cultivators have been Vinje, the author, among other things, of a rather truculent book on England, and Janson, a young writer of considerable activity. But this fancy language lies out of our province; if worth the consideration

of Englishmen at all, it should be studied separately.

We have now followed the literary life of this young nation for more than half a century. We have seen how the sudden political wrench, that divided it from its neighbor, gave it power to throw off the Danish influence and strike out a new path for itself. We have seen, too, how bravely, in spite of much weakness, and folly, and extravagance, it succeeded in doing this, and in becoming self-reliant and healthily critical; how, when the age of criticism had sobered and moulded it, it ceased to look outwards for artistic impressions, but sought in its own heart and soul for high and touching themes. The reader who has followed the history of this development will hardly fail to agree in looking for a golden future in store for the people

of Norway. Here we find a thinly peopled country of magnificent resources, a youth unexhausted by the effeminate life of towns, a language still fresh and unrifled. While Sweden falls deeper and deeper into an affected prettiness of style and mannered mediocrity, while Denmark turns like a sunflower to the witcheries of French plays and novels, Norway stands aloof, and bids her poets choose noble themes and treat them in an original and manly way. It is in this vigor that the great promise of her strength lies; she needs a school of writers that shall reflect the solemnity of her pine woods, the majesty of her mountains, and the wild splendor of her seas. Such a reflection we find in men like Bjørnsen and Ibsen, and we here would heartily wish them God speed, with three times three for Gamle Norge!

[From *Fraser's Magazine*.

AN HOUR WITH SOME OLD PEOPLE.

PART I.

SPRING IN A WORKHOUSE.

It was a soft delicious day in spring. The trees were budding into leaf, and some of the flowering shrubs in the gardens had already burst into blossom; and yet it was still so early that the recent inclemency of winter was fresh in the mind, and the brightness and loveliness of spring seemed the brighter and the lovelier by force of contrast. Purple tints rested on the hills, distant about ten miles from our dusty town; and who could help longing, on such a day, to "forsake the busy haunts of men," and exchange the hot pavement for their cool, elastic turf, and the varied hum of street-life for the soft, hushed murmurings of brook, and bird, and rustling leaf, the only sounds that break the silence of their beautiful solitudes!

There was a "languid sweetness" in the air, to which the bustle of market-day in a country-town seemed incongruous; and yet it was pleasant, too, to hear the busy market-folk, as they met in the streets, exchanging hearty sentences of congratulation on the beauty of the weather, as though they were, every one of them, the happier for it.

Our errand conducted us away from the chief thoroughfares, gay with shops and

thronged with prosperous well-to-do people, through back streets and bye-lanes, into a quarter habited by some of the poorest classes of the inhabitants. We found ourselves walking along a straggling, irregular street, in which almost every house was of a different size and pattern, and only like its neighbors in never getting above a certain limit of ugliness and dinginess, within which this class of habitation seems to be doomed to be built. How dirty were the tribes of children that we saw as we passed by, playing in the gutter; how untidy the rough-haired women who now and then stepped out of the cottage-doors; how ragged and uneven the pavement, where the entrance of some court, or alley, abutted on the main street; how little, in short, there was, of anything that was pleasing to the eye, and how much that stood out in strong and disagreeable relief against the bright background of sunshine and blue sky, making one's heart ache to think how little chance thousands of people have, of finding out how beautiful the world is.

What can the inhabitants of such a place as this know of spring? we felt inclined to ask. Can the freshness of the opening year touch such as these with any other feeling than one of mere physical satisfaction that it is warm, that the cruel cold of winter is gone by?

Almost every cottage window rebuked the question, for even the most neglected-looking, where the muslin blind, that no decent cottage would be without, was dirtiest and most ragged, where broken panes of glass were mended with newspapers, or stopped with rag, was not without a silent acknowledgment of the coming of spring, in the shape of some mug, or broken pitcher, filled with primroses, or daffodils, sometimes with a straggling bit of black-thorn stuck unsymmetrically in the midst.

Of how much happiness were these posies the token! In childhood the coming into blossom of certain flowers form epochs in the year, joyfully anticipated, and affectionately remembered. It is a white day when the earliest violet is discovered, and the first blossom on the hawthorn is worth any pains that must be taken to gather it, and is brought home with triumph! What plans are laid in school as soon as it is known that primroses are out, for flower gathering expeditions on weekly half-holidays! What delightful rambles when the day comes at last, through such lanes and fields as are attainable! What plunging of little hands into mossy banks, amongst the folded spires of the cuckoo pint, and the tiny fronds of baby ferns, each rolled up in its stiff green spiral!

Happy the children who have such innocent pleasures within reach! We were glad to know that less than a mile from the very dingiest and most brick-enclosed court or alley in that country-town were banks and hedgerows starred with thousands of primroses, as free to the raggedest street-child as to the best dressed little boy or girl in the place. [Alas, we speak of several years ago, and since then brick has been laid to brick, and roof has succeeded to roof, so that we cannot help pausing with a sigh, to wonder how many of those primrose-banks are yet left!]

The above reflections brought us to a large, wooden gate, crowned with spikes, and set in a stone wall of unusual height, defended at the top with bits of broken glass. Not without some little difficulty we pushed the heavy gate open, and found ourselves on a neatly gravelled road, enclosing a semicircular piece of turf, and leading to a large red brick building, a "many-windowed fabric huge," whose entire exterior, down to the very bricks,

seemed to our fancy to wear a stern air of official responsibility and formality.

Perhaps the framed placard which was almost the first thing that met our eyes, on crossing the threshold of this formidable-looking pile, and which contained a copy of some Act of Parliament relating to the treatment of REFRACTORY PAUPERS was hardly needed to make us aware that we were in the Union Workhouse. The placard was all in unreadably small print except these two words, whose large capitals seemed to glare at every one who entered in a severely admonitory manner.

The porter was out, and there was a little brown boy with a pale face and wistful eyes, that gave one the fancy that he must have been missing his mother without knowing it, all his poor little sickly life long, keeping the door in his stead. He knew us, and only smiled and pulled his forelock, as we crossed the entrance-hall and entered a brick passage, between whose high brick walls, pierced with numerous doors, and open to the sky, we must cross the interior of the Workhouse quadrangle.

The first wall to our left was the wall of the dining-hall, and presently we passed the open door of the kitchen, and had a glimpse of a stout woman busied over the fire, assisted by another woman in workhouse attire, and by a couple of girls from the school. The elder girls, we are told, are sent by turns into the kitchen, to learn what they can of cooking.

After this, more brick passage and more doors, over one of which the inscription "Casual Ward" is to be noticed. Since the Amateur Casual wrote his celebrated paper we have often glanced with interest through the open doorway of this ward; but the arrangements are quite unlike those described in the London Workhouse, except in the one particular that the floor is of brick. The entire ward is occupied by a single cumbrous piece of furniture, which might perhaps be called a compound bedstead. It is a huge wooden structure, with a high division in the centre, from which it is partitioned off into a series of cribs, each of which is covered with a dark-colored counterpane.

In a little while we found ourselves leaving the open brick passage for a covered way, which ended in a closed door, where we rang a bell, and were admitted into the Workhouse Hospital.

We seemed to have travelled a long way from the smiling weather outside, and to have reached an abode where day always wore a selfsame neutral tint. Save that we could see the distant blue of the sky far overhead, as we trod those brick-paved, brick-enclosed passages, what sign of the presence of spring had met us, since we entered the Workhouse door? Here, at last, we said to ourselves, going back to our former train of thought, we have come indeed to a region into which only some of the warmth, but little, or none, of the joy and beauty of spring can penetrate. And what if it were otherwise? What if this great building were some ancient palace of charity, of quaint and picturesque architecture, and standing in lovely garden-grounds, would any one of the inmates care for its beauty, or be one bit the happier for it, unless it contributed, in some measure, to personal comfort?

For who are the inmates of this building?

The sinful, the sorrowful, the suffering, the dregs and outcasts of society, who would die in the streets of vice and wretchedness, but for this refuge—beings, helpless and miserable, but not the less lawless and hard to rule; some few of the respectable poor, driven hither by temporary misfortune, and impatient to the last degree of the base contact into which it has brought them; children, some orphans, some deserted by their parents, many of them the offspring of the vagrant and criminal classes; sick people, too poor, too low down in the social scale, to hope for admission to any other hospital; old people, whose improvident lives find here their natural conclusion, and other old people, who, in being brought here, are overtaken by a fate which they have dreaded more than they dreaded death, and against which they struggled blindly for years, until the helplessness of age conquered them.

The workhouse is like a desolate island in the midst of a threatening sea. It is the sole resource of countless human waifs and strays, struggling in an ocean of difficulties; and, like a desolate island to shipwrecked mariners, it is at once a refuge and a prison. They are always looking out for some vessel to come and fetch them off, or they "tempt the waves once more," in some frail boat or raft, of their own construction; or if, after all, they resign them-

selves to die where they are, they do it sadly and unwillingly. Food, warmth, and shelter; that they get in their desolate island, and for that, beaten and tossed by the waves of circumstance as they have been, they are often more thankful than those to whom the bare necessities of life are matters of course, can well understand; but their lot has been shaped for them, not by choice, but by hard necessity, and there is little that is attractive in its aspect.

What difference can the beauty of spring make in such imprisoned lives? What is nature's smile in the world outside to the inmates of a workhouse?

To some, it is true, spring is the season of escape. It is warm, winter is over, the time is come for them to venture to leave their refuge, and try to pick up a living for themselves elsewhere. But there are, in every workhouse, a certain number of helpless beings who have never known, and never can know, any other home; and there are the aged, and the incurably sick, who once knew liberty, but have been forced to exchange freedom for food and shelter—what is the use of spring to them, except to excite longings for what they cannot have?

Wait! Let us see. For we have nearly reached our destination. The hospital door has been opened, and our question, "May we go into the Infirm Ward?" has received an affirmative answer. Here is the door, with the name painted up outside. Were you ever in such a place? No? Come in with us then, and see what it is like.

A large, oblong, four-windowed room, with whitewashed walls. Down each side of the room a row of beds, of which two or three have bedridden occupants; at the far end a fireplace, with a table near it, and some half-dozen old women dressed in blue gowns, and white aprons, and thick white cotton caps, sitting round in an irregular half circle, some on chairs, some on the ends of the nearest beds.

As we enter one of the old women round the fireplace rises, and comes forward with an exclamation of pleasure. She is a young person of about sixty-five, who has been selected for her youth and activity to have the care of the ward; that is, to use her own phraseology, it is her business to "do" for those old women who, through age and helplessness, can no longer "do" for themselves. And, on the whole, she is not

inefficient. She is, perhaps in rather a rough way, but as well as she knows how, kind to her helpless charges, and she is certainly popular with them. For she is bright and lively, with a ready laugh, and a droll tongue, and "the old ladies do like to be put in Hannah's ward," we were once told.

Hannah advanced to meet us that day with a broad smile of welcome, and greeted us with the exclamation—

"There! to be sure! Ain't I glad you be come to-day!"

And as we advanced to the fireplace the others endorsed the sentiment with various more or less energetic expressions of satisfaction.

"Yes, Hannah was just a saying," observed one, "that she did wish you might happen to chance to come to-day."

"So I was," put in Hannah, rather quickly (she is a favorite of ours, but we must confess she *did* rather like to keep the lead in the conversation), "but I wasn't expectin' of 'ee much, 'cause don't 'ee see, 'tis such heavenly weather! I thought you'd be goin' out into the country somewhere. I would, I know, if I was a lady! Now I'll tell 'ee, ma'am, why I did want for 'ee to come. 'Tis 'cause o' the pear-tree in the master's garden. He's out in blossom, ma'am, and he do look *that* beautiful, I thought if you could but see it!"

What an answer to our thoughts! Did spring make no difference in a work-house ward? Arrogant fancy! Why, every wrinkled countenance before us was looking brighter than usual merely because of the blossom on one pear-tree.

Of course we said we should like of all things to see it.

"So you shall, ma'am, if you don't mind standing up upon a chair. You can see un from these very windows if you do squeeze yourself against the wall a little, an' look sideways."

Who would not mount a chair and look sideways at such an invitation? We did so at once, and we saw the pear-tree—or rather part of *him*, for his full glory was not visible from that point of view. And when we descended from that exalted position, all the old faces were looking quite pleased and eager, and the most phlegmatic old woman in the room, who rarely opened her lips, or showed any interest in anything, astonished us by being the first

to say, "Ain't he beautiful?" "Ah, but you can't see un so well as he did ought to be seen, not *therefrom* you can't," said Hannah regretfully; "you can't see but a part of un therefrom. But he do look lovely from the men's yard. Do 'ee know what I did do this mornin', ma'am? The door were open, so I just slipped in an' had a good look at un. I hadn' no business there, you know, but nobody didn' see me."

Hannah had a real love for flowers. Those three geraniums standing on one of the window ledges are hers, and she shows them to us every time we come, and points out every fresh leaf or bud with pride and satisfaction. She has her pet name for each of them. There is her beauty, her great beauty, and her little beauty, the last being a little slip of a plant growing in an old tin mug.

Once she was threatened with the loss of her plants. Somebody, at this moment I forget who, made an official progress through the wards, and the unlucky plants caught his eye, standing, as they did, on an unauthorized bit of board which Hannah had somehow contrived to add to the narrow window-sill to make it wide enough to support her pots, and he pronounced them to be untidy, and desired that they should be removed.

Hannah was furious! The plants untidy! The chief ornament of the room untidy! The chief ornament of the room to be removed! But as to that, they should never be removed; she should stand in front of her beauties and not let anyone touch them. Poor Hannah! She well knew her own impotence, even whilst talking defiant nonsense, and every now and then wiped away a tear at the thought that if her flowers must go, they must. But somehow or other that order for their removal was never executed. Perhaps the official personage who gave it relented when he saw how much pain it would cause. At any rate, Hannah's plants were never touched, and continued to beautify the window-sill for many a long day after.

PART II.

WHAT WE TALKED ABOUT.

SOME years ago when we used to be in the habit of visiting the old women in H— Workhouse rather frequently, we used to notice, with some amusement, how

curiously apt our conversation was to repeat itself; how, time after time, we found ourselves saying almost exactly the same things, and that, not from wearisome lack of matter, but because the old familiar topics recurred more naturally and pleasantly than any others.

Thus, after the chapter in the Bible, that used to be asked for as soon as the first greetings were over, had been read, first one and then another would almost always begin to inquire whether we had lately chanced to visit any of those neighboring villages in which their homes used to be, and, if we had, they would proceed to name any families with whom they knew we were, or thought it within the limits of possibility that we might be acquainted, and ask, did we know them, and when had we seen them last, and so on.

There was one frail old woman—she is gone to the Home beyond the grave now—who used to look so wistfully at us, if we answered her question whether we had been to E—— lately, in the affirmative! We do not think that anyone near and dear to her was still living in her old birthplace, but she had acquaintance there, and now and then she used to ask leave to go out, and would make a pilgrimage there, perhaps to look at the graves of her dead in the village churchyard—who knows?

The last time she went was in early spring. All the winter she had talked of going to E—— when the fine weather came, but when it arrived it found her so weak and failing, that Hannah and the others tried to persuade her that she was not fit for the exertion. But go she would.

"I shan't get no *stronger* if I do wait," she said, "an' I *do* want to go there once again."

So she went; but the eight-mile walk, four miles out and four back, was too much for her little strength. It was all she could do to creep back to the workhouse, and, once there, she took to her bed, and, we believe, never left it till her death, which occurred some months later.

Poor Rachel! If we had but heard of her intentions beforehand, we might have helped her; but we knew nothing of it till we chanced to visit the workhouse a few days after her return, and found her in bed, not greatly concerned at her exhausted condition, but full of triumph at having accomplished her wish of seeing E—— again. She had not meant to walk the

whole way back, but, by some mistake, the friendly cart in which she had reckoned on obtaining a place, started without her, and she set out on foot, thinking, however, that she would most likely be overtaken by some conveyance or other before she had gone far, and get the offer of a lift.

"But I'd bad luck," she said; "every conveyance as went past me were full. 'Twas *such* a disappointment to me every time I heard wheels, and thought I'd get took up. I could ha' cried last time I did hear summat comin', an' 'twas Squire M——'s carriage. I know if they'd known how tired I were they'd ha' took I up, for they be kind folk—an' there *was* room on the box, but they went by at a gallop."

Perhaps it will raise a smile when we go on to say that another favorite subject of conversation amongst these old women, was the Queen and the Royal Family! We do not know what private sources of information we were supposed to have respecting the doings of these august personages; but we were generally asked whether the Queen was quite well, and how all the Royal Family were going on, as though, as a matter of course, we must know all about them. Somebody or other had once given them a portrait of Her Majesty, taken out of some cheap illustrated paper, and this Hannah had fastened up over the fireplace, and regarded with great pride. Afterwards, when in the course of time the royal picture became defaced with smoke and dust, it was replaced by two smaller portraits of the Queen and the Prince Consort, and, the last time we saw the room, its bare white walls were further adorned with the likenesses of the Prince and Princess of Wales, and, if we recollect right, of Princess Alice.

How well we remember going to see them once, about a week before the Prince of Wales's wedding, and telling them of the various festivities with which it was proposed to celebrate that event.

"Well, I declare," said Hannah, "I wish I was twenty years younger, to enjoy it all! But I'll tell 'ee a secret, ma'am. We bain't goin' to be left out. Us old women is going to have our 'lumination so well as the rest! We be savin' up all our candle-ends out of our 'lowance o' candles, an' the messenger (you do know th' old man what do go out wi' messages—gets us our snuff an' such when we've a few pence to lay out), he's a-goin' to bring us in some

large pertaters; an' what do 'ee think we be goin' to do? I be goin' to scoop out them pertaters, an' stick the candle-ends in 'em, an' range 'em on the ledges o' the window. Ha! ha! ha! ha! I wonder what the Queen 'ould think if she knowed us old women was goin' to have our 'lumination too."

And she burst into a hearty fit of laughter at the idea, in which almost everybody joined. "Nor we ain't goin' to want (*i. e.* lack) our feast neither," Hannah continued. "I don't mean the doin's they be goin' to have for *all* the workhouse folk, that ain't much good to *me*. My dear soul! when you be goin' on for threescore an' ten, an' not a sound tooth in your head, roast beef isn't much enjoyment to you. You do know what we do like, don't you? 'Tis our cup o' tay. We've got some of Mrs.—'s tay, which we do consider the best tay we do ever get—I be very choice over it, I do assure 'ee. An' we be goin' to drink the health of the Prince an' Princess in a cup of tay, an' long life to 'em both, I say."

The ordinary workhouse beverage is coffee, which is, we believe, more economical than tea. We never heard the old women make any complaint about it, but we do not think they can have liked it much because of the jubilation with which a present of tea was always received. But don't you think that half the satisfaction of the cup that "cheers but not inebriates" must have been neutralised to them by *having to drink it out of a tin mug?* We appeal to any lady who reads this paper. Would you not, madam, reject with scorn that five-o'clock cup of tea which is your pet luxury, if it were offered to you in any such vessel? And supposing refractory paupers have a tendency to break everything that is provided for them which necessitates tin in their case, is that a valid reason why quiet old people should go without cups and saucers?

These old women, too, have a rooted detestation of communism, and establish their little rights of property, unacknowledged by authority, but not the less strictly respected amongst themselves, to every individual thing they use. Exactly alike as those tin mugs appear to your inexperienced eyes, we believe that each old woman could, and would, swear to the personal appearance of her own particular mug in any court of justice. They like to play at having something of their own;

and why not? What instinct more natural to old age! And would any deeply essential rule of poverty be outraged if they did actually possess a few trifles of their very own?—if, for instance, each old woman had her especial cup and saucer, saved, it may be, out of the wreck of her household goods, or the gift of some friend or visitor.

Nor do we suppose that it would be against any imaginable principle of justice or prudence, if a few arm-chairs and footstools, perhaps even a bright-colored rug to lie in front of the fireplace, were to find their way into the infirm wards of our workhouses. We do not mean that the Board of Guardians should provide these articles; but we see no reason why the gifts of kindly-disposed persons to the poor should not sometimes take this shape.

There is a fashion, however, even in doing good, and somehow or other the aged poor are not favorite objects of popular benevolence. It is rather a curious circumstance that in the conspectus of London charities published some time ago in the *Times*, the sum annually expended on the relief of the aged fell short of that spent on any other kind of charity; and, only the other day, we heard of a suggestion on the part of a most estimable kind-hearted gentleman, who, we feel confident, never in his life intentionally dealt hardly by anybody, that it would be a *very desirable reform* to divert to the pet object of the day, "educational purposes," a certain bequest which was being wasted (according to the intentions of the testator, of course; but who at this enlightened period cares about the intentions of the testator?) in pensions to the aged poor.

Well! we must not quarrel with nature. We cannot help feeling more interest in the little child just starting on life's journey, for whom we think we can do so much, than it is possible for us to do in the travel-stained old pilgrim, on the very brink of another world, for whom we know we can do so little. Nevertheless, the little we can do should at least be done; and does it not strike one that if to the sturdy tramp, who wilfully encumbers the rates, the workhouse should be made more of a prison than a refuge, to the aged poor, who have come there to die, it should no less certainly be made more of a refuge than a prison?

There are the windows, for example;

perhaps some one, reading the first part of this paper, may have exclaimed at the idea of having to mount a chair to see out of window, "Windows are not usually placed at such an inconvenient elevation."

Yes; in workhouses they are. Probably the very first thing that would strike a stranger on entering such a ward as I have been describing, would be the curious anomaly that all its four windows are situated so much nearer to the ceiling than to the floor, that they look like windows down to the ground reversed, and turned into windows *up* to the ceiling. They are, of course, as useful, as mechanical contrivances for admitting light, as any other windows; but beyond that, people who by the laws of gravitation are compelled to reside, not upon the ceiling but upon the floor, cannot possibly derive *much* pleasure or advantage from looking out of them.

Of course, there are reasons, and, we doubt not, sufficient reasons, for this peculiar style of architecture. A great many very unruly and troublesome inmates are apt to find their way into workhouses, and inaccessible windows may, very likely, be a wise arrangement as far as they are concerned. Another reason, perhaps, may be that when the windows are thus packed up aloft, more space to arrange the rows of beds is acquired, and more certain freedom from draughts obtained; but it is a plan that makes a room look uncommonly dull, and often have we wished that we could drag down even a single one from its lofty situation to a height at which it would be possible for the old people to look out, as well as for the light of day to come in. Might not such a sin against outward uniformity be forgiven in consideration of the letting in of a little more brightness upon some very monotonous lives?

Women of sixty-five and upwards are not the material out of which refractory paupers are made. They have been driven to the workhouses by the pressure of extreme poverty and the infirmities of age: should we not try to make the refuge in which their short remaining span of life is to be spent as pleasant to them as we can? The "smile of home," indeed, we cannot give them; but such minor adjuncts to happiness as a bright room, with cheerful windows, and exemption, as far as is consistent with good order, from such workhouse regulations as have somewhat of a

penal aspect, do lie in human power to withhold or to bestow.

Hannah's invincible liveliness always seemed to us to have a sensible effect on the spirits of those around her. There was quite a marked contrast between the tone of her ward and the next, where the woman who held a corresponding post to hers was depressed and querulous, and generally talked about her rheumatism. Yet even in Hannah's ward, the element of melancholy was not absent. Far from it. It was but thrown a little into the background. For example: to take ten or a dozen old people and shut them up together in a large room may be the only way of sheltering them when utterly destitute, and does not work badly on the whole; for, in spite of the universal dislike to coming in, they do not appear unhappy, and are often wonderfully cheerful and contented; but it does not strike one as the *natural* mode of providing for the comfort of the aged, whose infirmities have a tendency to unfit them for social life, and to render them irritable, querulous, and exacting; so there is nothing very astonishing in the fact that many mope and fret for weeks after their first entrance, and some *never* get over their misery at being parted from their relations, and their intense dislike to being herded with others.

I remember one old woman of this description, who used to sit in the corner on one side of the fireplace in Hannah's ward. Her right arm was paralysed, but that was not the grief that caused the ready tears that used to spring forth at the mere question, "How are you to-day, Jemima?"

"I don't know how I be, an' I don't seem I cares! *They* haven't been to see me this week. *They* puts me in here, an' forgets me. Oh, ma'am, I be so unhappy here!"

"There, that's how you do always go on," interposes Hannah. The words sound harsh, but they are not spoken unkindly, and, oddly enough, do not seem to offend. "Your daughter-law can't be for ever runnin' over to see an old woman like you. Don't be so unreasonable; I dare say she'll come to-morrow. I declare you ain't a bit reconciled, though you've been here two years."

"No, I ain't a bit reconciled, an' I never shan't be," weeps poor Jemima, lifting her apron, with her unmaimed left hand, to wipe away her tears.

Here is another instance of the same feeling, pitiable enough, though it does not excite the same compassion. Look at that stately old woman, propped up in bed with pillows, who makes an imperative sign that the lady is to come and speak to her. What an expression of settled discontent there is in her face!

"I'm very glad to see you come in, ma'am," she says in a complaining tone, "I'm sure 'tis a pleasure to see *anybody* come in. I'm not treated as I ought to be, ma'am,"—lowering her voice to a whisper—"I oughtn't to be here at all. I've paid rates myself, *I* have, an' had things *so* different. 'Tis harder on me than 'tis on any of them! I'm sure I feel quite ashamed that a lady should see *me* in such a place."

It is curious to see how often people get what they claim. We used to fancy we could perceive that this self-asserting personage received quite the lion's share of attention and respect from the others. They addressed her as Mrs. H—, instead of calling her by her Christian name, and even Hannah seemed to defer to her.

Do you hear a faint, catching sigh from the other side of the room—a sigh that would have been a groan if the expression of suffering had not been checked by the consciousness of the presence of others? Let us go to the bed from whence it comes. There lies a woman, younger, perhaps, than some of the rest, but chained to her couch by some acutely painful, lingering disease. What a patient, pain-drawn countenance! The pale lips absolutely smile an answer to your greeting, though the voice is so faint you must bend down to catch the words.

"It is rather a bad day with me to-day, ma'am; but I suffer always. I seem sometimes I can't hardly bear myself. I hope the Lord 'll send for me soon . . . but I seem 'tis so long to wait."

Ah, yes! two or three years of utter helplessness, of almost constant pain in a workhouse ward amongst strangers, with everybody she cares for either far away or gone to a better land, must seem long indeed. "God grant her speedy release," you say in your heart as you turn away, pained at the sight of pain that you can neither relieve nor alleviate.

But it is time to say good-bye and leave the workhouse; perhaps, indeed, you may even now be murmuring against the tediousness of having been kept there so long

a time. But do not grudge it! In the caged monotony of these old women's lives, the coming in of a visitor now and then makes a welcome break, and gives so much pleasure. And, after all, the predominant impression that we carry away with us from the door of the hospital will not be a gloomy one. For those old women seemed wonderfully happy and contented on the whole; and if we have hinted, in passing, at one or two little matters in which they might be made more comfortable, we must not forget that in a far more important matter, and one with which not merely their comfort, but their happiness, was most closely bound up, their lot was fortunate indeed. We refer to the large and overflowing measure of kindness with which they appeared to be treated by the hospital authorities.

They used to talk to me of the doctor as if he were a personal friend of their own, and the kindly interest which he took in all their little concerns was evident, by the way in which his opinion used to be quoted, *à-propos* to almost everything. As to Hannah's plants, we think he must have come to regard them as supplementary patients, so continually did he appear to be asked to prescribe for their health.

And then there was "nurse!" If you were to ask the old women if "nurse" were kind to them, they would be almost indignant at so cold a question. "Kind!" we think we hear out-spoken Hannah ejaculate. "Kind! why, she's just a mother to us!"

As we write, there rises before our mind the recollection of one of the very kindest faces that it has ever been our happiness to behold; the face of a woman who has grown old amidst the toilsome duties of her post, but who, in all the years she has spent in the workhouse, has never ceased to put such a warm, loving heart into the performance of those duties, that for her they have never stiffened and hardened into an official routine. Hers was that service of the heart which money cannot buy, but which springs unbidden wherever there is an unfailling fount of that divine pity for the sorrowing and the suffering which is, indeed, "akin to love."

The touch of her kind hand, the sound of her kind voice—these are the last impressions that we carry away with us, as we retrace our steps through the long brick passages; and glad indeed we are to

think, as we come out into the open air, perhaps with a new, keen sense stirring at our hearts, of the beauty of the outer world, and the preciousness of personal liberty, that after all, the sunshine is not

exclusively to be found outside: there is sunshine, and that too of the best sort, within those walls we have just left behind us.

[From *Macmillan's Magazine*.]

NORMAN MACLEOD.

BY ALEXANDER STRAHAN.

ON the 20th of June, I followed to his grave, in Campsie Churchyard, Dr. Norman Macleod, the most manly man I ever knew, the most genial, the most many-sided, and yet the least angular. In his funeral sermon on his kinsman, Dr. John Macleod Campbell, he said, "I have had the happiness of knowing, and of meeting once in his house, the late Mr. Erskine of Linlathen, the late Principal Scott of Owens' College, Manchester, and Professor Maurice; and such men of culture, both of intellect and of spirit, such 'out-built,' holy, living men, breathing an atmosphere of such lofty thought and deep devotion, I cannot hope again to meet together on this side the grave." This sermon was printed in the May part of *Good Words*, with this note appended to the passage quoted:—"Alas! since this was written, the great and good Professor Maurice has departed!"

"They are all gone to that world of light."

Short was the time during which the writer of that pathetic note had to

"alone sit ling'ring here."

He now is one of those whose

"Very memory is fair and bright."

A more impressive funeral than his I never witnessed. From all parts of Scotland, from all parts of the kingdom, those who revered him—some of them *forced*, by his manly talent, faithful conviction, and goodness, to reverence him, in spite of great diversity of opinion—had mustered to pay the last tribute of respect to his remains. Norman Macleod was no mere paper and pulpit and platform good man, putting all his goodness into books and sermons and speeches. Where he was best known—known as standing the crucial test of the "dreary intercourse of daily life"—there he was most respected and beloved. Glasgow had known him for many a year as a most unpretentious, and yet most inde-

fatigable, worker for his brethren's weal in this life and beyond this life; and money-making Glasgow struck work in the middle of the week to show that it felt it had lost its best citizen. Had one of the members of the Royal Family, who looked upon him as a *friend*, and gracefully manifested their estimate of him at the grave, been the occupant of the hearse, the pavements, the windows, the housetops of the funeral route could not have been more densely thronged, or with sincerer mourners.

I esteem it no common honor to have known such a man as intimately, I believe, as any one outside his family circle knew him. My acquaintance with him began in this way. When I was a young man of twenty-four, quite unknown, I formed a project of starting a magazine to contain (as Dr. Arnold puts it), not so much articles of a religious character, as articles of a general character written in a religious spirit. But where was I to find a fit editor for it? Whilst I was pondering this difficulty, I chanced to read in the *Scotsman* a report of a chat on "Cock Robin," and other nursery ballads and stories, which Dr. Macleod had had with children, at the close of an examination in an Ayrshire school-room. His words seemed to me so kindly, so wise as well as witty—there was so much broad humanity in his humor—that I said to myself, "Here's the man, if I can but get him."

I offered the editorship of my embryo periodical to Dr. Macleod. He drolly replied, that his only qualification for the post was the fact that for ten years he had conducted the *Edinburgh Christian Magazine*, with heavy loss to himself and all concerned. This did not frighten me, however. I continued to importune him, and at last prevailed. "I'll become the captain," he said, "provided you become the sailing-master. More than this I dare not undertake, in face of my heavy pulpit and parish duties."

Good Words did not please him as a title when I first suggested it to him. His religion was of a robust type, and he thought it sounded too "goody-goody." However, I hunted up the "worth much and cost little" motto from Herbert, and Dr. Macleod consented to take the command of my venture when launched and christened as *Good Words*.

His agreement with me was characteristic—to wit, that there was to be no agreement; I was to pay him much or little, according to my estimate of what the magazine could afford. Such verbal agreements, as a rule, prove unsatisfactory to both parties; but we had no more definite agreement down to the end, and yet no question ever arose as to *meum* and *tuum*, nor did any cloud, even of the size of a man's hand, appear to darken our horizon.

It so happened that Part I. of *Good Words* was published on the same day as Part I. of the *Cornhill Magazine*. The latter sprang into fame and popularity at once, the former had an uphill battle to fight for a year or two. Yet, when Dr. Macleod went to India, in 1867, he wrote thus to me:—"Go where I will I am received with open arms. *Good Words* is everywhere, and is a magical open sesame for me."

The rancorous opposition *Good Words* had to struggle against—perhaps, though, "rancorous" is rather too strong an adjective, since sometimes "things are not what they seem," and, as Carlyle says, even cant may be sincere—the opposition, then, *Good Words* had to breast and buffet before we fought it up to the first place in point of circulation among monthly magazines—all that is an old story, and I have no wish to revive unpleasant by-gones. The fable of the Viper and the File might be alluded to, were it not that I do not believe that the bulk of the assailants of *Good Words* were really venomous; and, though Dr. Macleod could give and take as well as any man, a hard, rasping file is the last thing any one who knew him would think of likening him to. He had Celtic fire, Celtic sarcastic wit, in his composition, but also too much Celtic love of the liking of others, to suffer him to lapse into passive cynicism.

How anxious Dr. Macleod was to make *Good Words* answer to its title in the strictest sense is not, perhaps, sufficiently

well known. One of the most distinguished novelists of the day, a personal friend of his own, was engaged to write a story for it. When Dr. Macleod received the MS. and read it over, he wished it to be returned to the writer, because a clergyman was in his opinion unfairly satirized in it; and this was done accordingly, although it involved a loss to the magazine of £500. Again, when our common friend, Mr. George MacDonald, was about to write "Guild Court," Dr. Macleod was very anxious that no "heterodox" views on the subject of future punishment should be introduced into it. For hours the two discussed the matter in the publishing office with friendliest warmth. At last in tripped a little girl, and by her simple wise prattle, not only put an end to the controversy, but actually became the model for the most interesting character of the story. Before his death Dr. Macleod had adopted Mr. Maurice's stand-point on this question, as he emphatically made manifest in the last sermon I heard him preach at Balmoral.

I have heard him preach scores of times, and cannot call to mind one sermon of his that was dull. Many preachers soar now and then in their discourses, and then come down with painfully flapping wings; but when Norman Macleod went up he kept up with a strong, steady flight that never flagged. I have often heard him preach under exceptional circumstances—in Paris, Amsterdam, Berlin, Vienna, Rome, Athens, Alexandria, Constantinople, Jerusalem, and Damascus,—but the most striking of these exceptional services were when he preached on board a Peninsular and Oriental steamer in the Mediterranean to a congregation of fore-castle-men—the shaggy-breasted tars all crying like children; and again, when, on the banks of the Caledonian Canal, he addressed the crews of half a hundred fishing boats. I have said "preached," but in neither case was it a set sermon—simply friendly talk made eloquent by its earnestness.

Dr. Macleod liked to see a *man*, and had a warm place in his heart for soldiers and sailors. He would sing his own war-song, "Dost thou remember!" to a company of old soldiers; and "The Old Lieutenant and His Son" and "Billy Buttons" show how sympathetically he could limn old salts. An absurd report,

by-the-bye, has been spread that the latter story was plagiarized from Bret Harte, the fact being that, although only recently republished in a book, "Billy Buttons" appeared in a Christmas number of *Good Words* long before the publication of "The Luck of Roaring Camp."

"Wee Davie" was his own favorite among his works. It was rattled off at a sitting. But he thought very little of his writings, and full of shrewd observation, lively description, and good humor, in two senses, as they are, there can be no doubt that Norman Macleod was infinitely greater in his life than in his books. The last thing of his that he saw published was a sermon preached before the Queen, on Christ blessing little children; it was printed in the June part of *Good Words*. His children will remember that coincidence, for a fonder father there never was, as all will admit who were privileged to see him surrounded by his little ones, telling them his wonderful "once-upon-a-time" stories by the hour together. The Scottish character is thought to be rugged, but it holds, like honey hived in rocks, a rich fund of tenderness. To speak only of Scotsmen of our own day, in no men has this store been richer than in George MacDonald, John Brown, and Norman Macleod. But it is not for me to touch on his domestic life. The beauty of it, in all its relations, will, I trust, soon be portrayed by a congenial hand.

Sunny is the best epithet for his social life. At a public dinner, in a private drawing room, in a cosy tobacco-scented *tête-à-tête* he radiated enjoyment. He was full of fun—full to overflowing. And one of the readiest ways in which his abounding spirits found expression was at the point of his pencil. Almost all his letters to me were illustrated with little whimsical drawings, —very slight, but showing artistic faculty of the highest kind.

The favorite student and devoted admirer of Dr. Chalmers, he nevertheless had to fight manfully against his old master at the time of the Disruption; and yet Dr. Macleod did more, perhaps, than any other man to breathe a spirit of comprehensive charity into all the churches. More than once have I seen his stalwart form bent forward in deep interest as he listened to the debates in the Free Assembly Hall; and he devoted the entire profits of his "Earnest Student" to the Free Church Indian Mis-

sions. How much all this implied can only be known by those who are in some way acquainted with the fierceness with which the ecclesiastical battle raged, which, for better for worse, rent Scotland in twain, dividing family from family, parent from child, and brother from sister. I well remember the eagerness, too, with which he accepted for *Good Words* a poem sent to him by the daughter of one of the doughiest champions of the Free Church, and one of the hardest hitters amongst its leaders.

His stand on the "Sabbath question" has taken much of the irrationalism out of Scotch opinion on that subject—loosened the grave-clothes, and washed the face of that sublime gift of God, the day of rest. And many men of other communions first began to respect Presbyterianism when they became acquainted with Norman Macleod.

In literature, (besides *Good Words*), *The Contemporary Review*, *The Sunday Magazine*, and *Good Words for the Young* can call him father, for without his generous aid and encouragement at the beginning and all through, I could never have projected or established any of them.

And his life-long championship of the poor has had fruitful results. He did much by his own personal exertions, and also by his little work, "How to Help our Deserving Poor," but he did more by directing our common friend, the Rev. W. Fleming Stevenson, into this path, and by getting him to write such papers as the one on "Dr. Chalmers at Elberfeld," which appeared in the first Part of *Good Words*, and to which can be directly traced all the great Charity Organization movements of the day.

What more need be said? Writing for a critical journal, I feel that some recognition of Dr. Macleod's fine faculties, and some attempt to estimate them, cannot be dispensed with even from the least capable of his comrades.

The word falls from the pen not infelicitously. A noble comrade! That was what Dr. Macleod was, and it is a type of character not too often exemplified in circles to which any such word as "evangelical" is usually applied. There is a "song of parting" by one of the truest poets of our time, of which in the chorus the recurring words are:—

"The love of comrades,
The life-long love of comrades,
The manly love of comrades,
The high-towering love of comrades."

And who can help thinking of this chorus when the image of Norman Macleod arises in his mind? He was the comrade of all good things. There are pioneers, and camp-followers, and leaders, and the rest. Dr. Macleod had much of the soldier in him, and would have struck a good stroke in the very van, but it was not his characteristic to want to hurry in advance of his company. There is a rather conservative French epigram which says, "The better is the enemy of the good"—and it has its truth. Dr. Macleod would not thank me for trying to elevate him at the expense of any human being; so I need not depreciate any lonely fanatic or pioneer of the better, when I say that he was the comrade, rather than the fighting man of the good. Having put his hand to the plough—and manlike-deep were the furrows he made, and straight also,—he was not one to look back; but he liked to abide with his own people, and he did. It was in the spirit of a Christian comrade that he did his best work.

Dr. Macleod was a striking example of solidarity of character. You cannot separate in him, even hypothetically for purposes of criticism, the morals from the intellect, or either from the religious currents of his nature. Admitting that his creed does look a little outside of him, his entire simplicity prevents this from being in any way unpleasant. If there were things in his opinion which did not "mortice in" or "splice" with exactitude, the discovery, when you made it, struck you as it might have done, if you had made it in the mind of a big good boy.

The burden and the mystery had made marks on him, as on the rest of us, and he avows it in his writings; but he enjoyed life very much—his soul lived, if one may so say, with a very full, very strong, very complex life. If you add a double portion of the Celtic religious fervency and glow to something of Sydney Smith, something of Thackeray, and even something of Lord Palmerston, you have gone some way towards reconstructing Dr. Macleod. He loved work, but he took hold of things by their smooth handle. His mind went straight to its conclusions in ways which irresistibly remind one of the buoyant canon and also of the buoyant prime minister; but his con-

scientiousness and reverence were, in comparison to theirs, mountainous in height, and volcanic in force. He had in his nature the "great strong stock of common sense" that each of these distinguished men carried about with him; and he had much too of Thackeray's equalizing humor. His humor, like Thackeray's, was largely, too, the humor of comradeship.

Dr. Macleod, however, had infinitely more tenderness than either of the three men I have named. This quality is abundantly shown in his writings, especially in what he has written for children and about children. The love of the young is a quality which may stand for a great many things. Sometimes it is strong, and yet there is nothing to lay hold of but the bare instinct, which is as strong in monkeys and birds. Sometimes it is cynicism turning in upon itself to get a taste of geniality. But occasionally, as in Norman Macleod, it is a much more comprehensive quality, and much more of an index. For example, it may point to natural simplicity and complete truthfulness of character. Then, again, no one can write with much sympathy about children who has not really lived with them; and this requires both patience and compassionateness. There is something deeper still. When the devil and his angels have done their worst, no one can mix much with children without feeling that man was made for God and goodness; in their society the most unsophisticated play of the better impulses comes so easily to the surface, and so unconsciously, that we can kindle our own torches anew at their little lamps, even in the gustiest weather of this weary world. From all these points of view it is easy to discern that Norman Macleod loved the young, and the fact is full of significance.

Incidentally, it may be added that Dr. Macleod had, in perfection, one great sign of simple solidarity of character—he could sing songs, and, what is more, sing his *own* songs, in such a way as really to heighten the pleasure of a social gathering. The gift is not a very rare one among the Scotch, in whom the minstrel type is always cropping up; but among the English, especially the cultivated English, the faculty of social song-singing in such a manner as not to throw a cold blanket over the listening circle is much more rare.

All he did in literature was good, and like him. But he had no self-competing

ambitions, and never pushed any *specialty* beyond a certain point of excellence, which may be called the domestic. It was in companionship that his best broke into flower. He had always a happy pencil of his own, as I have said, but the sketches intended only for the eyes of his more intimate friends were the most humorous and effective that he ever drew. Great humor he had, but this, too, was domestic; his "humor of comrade," as a Frenchman might put it, was good, but his more domestic humor was better still, and his very finest playfulness was unreported and unreportable. It thus happens, that whilst on the one hand the first thing that strikes one, on looking at the character of Dr. Macleod, is the breadth and reach of the lines upon which it was built, the second is undoubtedly the fact that his very best was always something intimate and domestic. Nor does this for one moment lessen the greatness of anything that he did for the Church, or for the State, or for Indian missions; for whatever he did, the fulcrum of his activity never changed. His nature was of the radiant order, and though it could and did project heat and light to very far off, you required to get near the "ingle-nook" to know the best of it. His mind was not of the order that makes wide circuits from intellectual or mixed points of view, and returns upon its moral centre every now and then for more force; it was, as I have said, a radiating mind, and the world has gained accordingly.

When the cordage of his strong heart cracked to pieces, and the signal for departure came, it found Dr. Macleod already on the way, for he had practised himself in dying—no trifling science. No pilgrim ever gazed on Jerusalem more eagerly than he did when he first saw it from the brow of Neby Samwil; but soon his conversation turned from the old Jerusalem to the new—the earthly city seeming to suggest the abiding city rather than anything else. And when we left Jerusalem, and turned our last lingering look upon it, he was lost in the contemplation of the idea of departure, which contains all infinite ideas. It might have been expected that the abundance of his thoughts would have made him live more intensely, and consequently rendered death more difficult and strange. But it was not so, as is well known to all who noted how frequently his conversation treated of the after life and the boundless possibilities of enjoyment in it,—how in his most brilliant talk (and who could be so brilliant in talk in this generation?) he, giving free play to his imagination and ignoring the limits of time and space, soared to "worlds not realised," and wandered at large in the fields of immortality. And when Death walked straight up to the strong man, and laid him in the dust, it found him ready, with the humble peace which is the most magnificent ornament of that solemn moment.

[From *Contemporary Review*.]

LITERARY NOTICES.

THE FORMS OF WATER IN CLOUDS AND RIVERS, ICE AND GLACIERS. By John Tyndall, LL.D. New-York: D. Appleton & Co.

To an American—Professor Youmans—himself eminent as a popularizer of science, belongs the honor of devising and initiating a series of works designed to bring the most authoritative thinkers and workers in the various fields of science into direct connection with popular scientific culture all over the world. The "International Scientific Series," of which *The Forms of Water* is the first volume, will consist of compendious scientific treatises, representing the latest advances of thought upon subjects of general interest, theoretical and practical, to all classes of readers. "While the books of this series," says the preface, "are to deal with a wide diversity of topics, it will be a

leading object of the enterprise to present the bearings of inquiry upon the higher questions of the time, and to throw the latest light of science upon the phenomena of human nature and the economy of human life."

The excellence of this plan is patent, and "goes without saying," but much of the value of the series will depend of course upon the manner in which the plan is carried out; in other words, upon the character of the writers to whom the work is confided. It is gratifying to know that in this respect, also, Prof. Youmans has been completely successful. Many of the subjects are already announced, coupled with the names of the authors who have promised to treat them; and in looking over the list, the reader will find that almost every subject is in the hands of the man who, above all

others, would be looked to for an authoritative and satisfactory exposition.

No one, for instance, could so appropriately instruct us concerning the "Forms of Water" as Prof. Tyndall, who has done more to advance the scientific knowledge of this subject than any writer, living or dead. His book, though brief, is a complete and exhaustive treatise, and so very lucid and pleasantly written that quite young students need not be deterred from its perusal. Once thoroughly appropriated, the reader will find that he can follow water through all its aspects and forms from the vapor of the clouds to the vast masses of the Alpine glaciers, and at the same time get a suggestive glimpse of the great principles which underlie several of the physical sciences.

It is needless to point out that no reader who desires to know what modern science is, or to keep up with its progress, can dispense with this series. It ought to mark an era in popular culture, and especially in this country should receive a generous and cordial support.

THE ANCIENT STONE IMPLEMENTS, WEAPONS, AND ORNAMENTS OF GREAT BRITAIN. By John Evans, F.R.S. New-York: D. Appleton & Co. 1872.

THIS is a very handsome and copiously illustrated volume, and throws new light upon the subject of prehistoric archaeology (treated of in our leading article this month), drawing its materials from a source which makes it especially interesting to English and American readers. The London *Examiner* says of it:—"The new theory of the Antiquity of Man, as based mainly upon the discoveries of works of art in lake-dwellings, in caves, and in the quaternary deposits of river valleys, receives very zealous support from the volume lately published by Mr. John Evans, the well-known antiquary. The geological and other branches of the inquiry into the antiquity of man have had skillful exponents; but something was still required to popularize the study of the implements themselves, and to enable the less scientific portion of the community, and such persons as could not have easy access to the large collections, to appreciate the nice distinctions in the types of implements used at different periods and by different races. It was easy enough to understand, and it was soon generally admitted, that primitive man used implements and weapons of flint, and such hard materials as readily presented themselves to him; and, indeed, at the later stage of the controversy, there has been a liberal disposition to accept the idea that every nation has had its Stone Age. Yet there was of necessity some difficulty then in assigning certain of these relics to certain nations and races, and to special periods in their history. The book under notice is designed to give authentic information on these points, and to furnish a general classification of the numerous varieties of stone weapons and implements; and, bearing in mind the long experience of Mr. Evans, and

his great enterprise as a collector of archaic relics, students will reasonably expect much at his hands. Having carefully examined this book, we are bound to say that the author has completed his difficult and laborious task with signal success."

GARETH AND LYNETTE. By Alfred Tennyson. Boston: J. R. Osgood & Co.

Mr. Tennyson announces that this is the last of the Idylls of the King, and that its place in the series is after "The Coming of Arthur." Gareth, the hero, is "the last tall son of Lot and Bellicent, and tallest," and with ambition fired by what he has heard of the glories of King Arthur and his knights, he importunes his mother to permit him to seek his fortunes at the court. At last she consents, but in the hope of deterring him from the scheme, stipulates that he shall enter the service of the king without revealing his name or lineage, and serve for a whole year as a "kitchen menial." Gareth accepts this, and hastens to Camelot, and the Idyll relates his adventures there, and his "quest" with Lynette in relief of Lynette's sister, who was oppressed by four brother knights of great prowess. These he overthrows, winning at the same time his own knighthood and the favor of Lynette, who has all along scorned him as a "low-born kitchen scullion." It is left in doubt, however, whether he weds Lynette herself or "Lyonors, Lynette's sister," whose deliverance he had wrought.

There are several fine passages in "Gareth and Lynette" which we should be glad to quote if we had the space, but as a whole, it seems to us the weakest of the Arthurian series. Read along with the rest in its proper sequence, it adds a new tint to the picture, and assists to round out the whole; but read by itself as a separate poem, it impresses us as rather disappointing.

Of the great epic, now completed, we shall take occasion to speak at some future time.

BIOGRAPHIA LITERARIA; or, Biographical Sketches of my Literary Life and Opinions. By Samuel Taylor Coleridge. New-York: Holt & Williams.

COLERIDGE was born on October 21st, 1772, and the publishers, in recognition of this fact, give us a "centenary issue" of what is probably his most characteristic and certainly his least impersonal work. It may be doubted if the work will meet the wants of any considerable number of readers; for besides being diffuse, rambling, and disconnected, the world has outgrown, or at least repudiated, the German theories and speculations which Coleridge here endeavors to erect into a comprehensive system of philosophy. The book is worth reading, however, as a record of the inner life and thoughts of one of the greatest poets and most subtle intellects that England has produced, and it may appropriately find a place in every literary collection. The present edition is a very choice one, and is accompanied with an elaborate introduction and notes.

INCIDENTS OF MY LIFE. By D. D. Home. New York: Holt & Williams.

Mr. D. D. Home is well known to our readers by reputation probably, and by reason of that reputation many will no doubt be deterred from reading this book. It is worth reading, however, if for nothing else, because it is the latest exposition of the present attitude and claims of Spiritualism. Mr. Home is a fanatic, and very likely something of a charlatan; yet his life has been not unimportant, and the record of it is certainly abundantly interesting. The present volume is a continuation of the narrative of which the first installment was published ten years ago, and brings the record down to the celebrated trial of Lyon *vs.* Home. The report of this trial occupies nearly half the volume, and is the most interesting and suggestive portion. A Third Series, completing the narrative, is announced for next spring.

MESSRS. APPLETON & Co. publish two more valuable scientific works: "Hand-book of Chemical Technology," by Rudolf Wagner, Ph.D., translated by William Brookes, F.L.S.; and "Contributions to Molecular Physics in the Domain of Radiant Heat," by Prof. John Tyndall. Wagner's book ranks among the best of its class, having passed through eight editions in the original German, and the additions by the English translator enhance its value for American students. All branches of the subject are treated of, and the book is handsomely printed, and illustrated with 336 wood-cuts.

"Contributions to Molecular Physics," by Prof. Tyndall, comprises the valuable papers which he contributed several years ago to the "Philosophical Transactions" of the Royal Institution. The papers have been revised for this volume and some additions made, and will doubtless be welcomed by all scientific students; though, as Prof. Tyndall explains in the Preface, summaries of most of them have already been given in his work on "Heat." This volume is also illustrated.

FOREIGN LITERARY NOTES.

A YOUNG Sicilian poetess, Carmelina Manganaro, sixteen years of age, has published, in Messina, a volume of "Saggi Poetici," edited by Prof. Letterio Lizio Bruno.

ANOTHER part of Prof. Giesebrecht's important work, *Die Geschichte der deutschen Kaiserzeit*, has appeared, which contains the history of the period from A.D. 1125-1152.

MR. CHILDERS, a gentleman who was in the Ceylon Civil Service, is preparing the first Pali-English dictionary that has ever been attempted. The first part is to be published this month.

A PUBLICATION which deserves notice is by two of the Fathers of the monastery of La

Trinità in Cava, who have given to the world the results of their labors in the rich archives of that celebrated establishment of Benedictines.

M. ALPHAND's great illustrated work on "The Parks and Promenades of Paris," suspended by the war, is approaching completion. M. Rothschild, the publisher, has expended above \$25,000 upon it. The parts still wanting will be issued this year.

A PROF. PASQUALIGO is translating the complete works of Shakespeare into Italian prose. He has just published a second part with the conclusion of "Much Ado about Nothing" (Gran chiasso per nulla), and the beginning of "The Tempest."

THE Rev. Dr. Schiller-Szinezzy is engaged in carrying through the press his learned and elaborate Catalogue of the Hebrew MSS. in the University Library of Cambridge, on the compilation of which the Doctor has been working for several years past.

A MEMORIAL volume, consisting of selections from the writings of Mazzini, is to be published for circulation among the working classes of England. At the time of his death, Mazzini had not completed the revision of his collected works. This task will, therefore, be performed by one of his English admirers.

M. PAPILLON contributes to the *Revue des Deux Mondes* an article "On Electricity and Life," which deserves especial attention. The whole subject of animal electricity is most carefully considered, and the action of electricity on the animal and vegetable economy, as far as the researches of science have developed it, is examined with great skill and caution.

THE sale of the copy-rights, etc., of the house of Bohn (not to be confounded with the English publisher of that name) took place lately at Haarlem. The copy-right of the *Camera Obscura*, by Hildebrand (Nicolas Beets), the most noted work in modern Dutch literature, was sold for 12,000 florins; that of the Poems of the same author fetched 5,000 florins.

IT appears from a statement in a Russian journal that the number of periodicals published in the Empire of Russia is 337. Of these, 286 reviews and journals are in the Russian language, 189 being published in St. Petersburg, 30 in Moscow, and 147 in other towns. There are 40 publications in Polish, 6 in French, 30 in German, 4 in Lettish, 5 in Esthonian, 2 in Finnish, and 3 in Hebrew.

AN English translation of the text contained in the eighth edition of Tischendorf's Greek Testament, by Dr. Davidson, is in the press, which will be an exact representation of the most recent and best critical text, as well as a revision of the received English version. The work is

printed by Giesecke & Devrient, of Leipzig, and will have two introductions, by Tischendorf and Davidson.

THE *Athenaeum* says the Rev. Charles New, of the Livingstone Search and Relief Expedition, is engaged on a work entitled "Life, Wanderings and Labors in Eastern Africa, with an Account of the First Successful Ascent of the Equatorial Snow-mountain, Kilima-Njaro, with Remarks on the East African Slave Trade." It is to be published by Messrs. Hodder and Stoughton of London.

MR. EDWARD JENKINS, author of "Ginx's Baby," etc., intends to publish a Christmas story, which will take up the question of the agricultural laborer. It will be entitled "Little Hodge," and is to be issued in the style of Charles Dickens's Christmas stories, at one shilling. He has also nearly completed a novel intended to illustrate the Coolie system, and the relations of the races in the West Indies.

A FIND, which may turn out to be an interesting one, has been made by Dr. Grant, of the American mission at Cairo, in the shape of a Hebrew MS. of portions of the Bible. It was found in a synagogue in the neighborhood of Cairo, reported to have been built forty-five years before the second temple was destroyed. It was carefully deposited in a niche in the wall, ten feet above the ground, and had to be secured by the means of a ladder. Portions, at least, of this MS., which still awaits proper examination, are supposed to be very old.—*Athenaeum*.

"SHAKESPEARE AND TYPOGRAPHY," a work just brought out by Trübner, cites many instances of the great dramatist's familiarity with the technical terms of the "art preservative of arts." Among them these two:—1. "Come we to *full points* here? And are *et ceteras* nothing?"—2 *Henry IV.*, ii. 4.

2. "If a book is folio, and two pages of type have been composed, and they are placed in proper position upon the imposing stone, and inclosed within an iron or steel frame, called a 'chase,' small wedges of hard wood, termed 'coigns' or 'quoins,' being driven in at opposite sides to make all tight.

*By the four opposing *coigns*
Which the world together joins.
Pericles, iii. 1.

This is just the description of a form in folio, where two quoins on one side are always opposite to two quoins on the other, thus together joining and tightening all the separate stamps."

The Portuguese are to have a dictionary equal to those of other peoples—some time. The Royal Academy of Science at Lisbon began the work toward the end of the last century, but abandoned it in B; leaving, however, a volume of 750 pages. In 1822, a fresh attempt was made, which broke

down in D. Another effort, begun in 1844, has lingered till now, but can scarcely be expected to survive long. Finally, Dr. Fr. Domingos Vieira, of whose capacity nothing particular is known, has undertaken the herculean task, and the *Grande Dicionario Portuguez, ou Thesouro da Lingua Portugesa*, is now appearing in parts, of which the sixtieth has been reached, making two volumes of some 2,400 pages, and carrying the work to the end of C. There are Portuguese dictionaries; but they leave much to be desired. That of the Brazilian Antonio de Moraes Silva is the best now in use. For definitions Constanacio's is valuable, but it is full of Gallicisms and is disagreeably dogmatic in tone. Edward de Faria's, with notes by Senor Lacerda, is barely passable.

THE now famous Utrecht Latin MS. containing the Psalter has been examined by one clergyman at least, and will be inspected by more. The part which contains the Athanasian Creed has been photographed by the authorities, and a few copies of the photograph have been sent to this country. An examination of one of these has led those who inspected it to assign the MS. to the ninth, or perhaps to the eighth century. This is the opinion of scholars familiar with all kinds of MSS., and competent, as few are, to determine their ages. If the codex be so old, the origin of the Creed must be carried back at least a century earlier; so that the composition can hardly have proceeded from the age of Paulinus of Aquileia, or Alcuin, († 804,) or Charlemagne († 814.) It should be stated, however, that the librarian at Utrecht is inclined to give the MS. a later date, though we are ignorant of his reasons for doing so. As far as is known at present, this is the oldest copy of the Creed; and though two or three minute points may appear to detract from an eighth or ninth century date, yet the photograph, as a whole, scarcely justifies a later period. The Deputy-keeper of the Public Records has been requested by the bishops to report upon it.

SCIENCE.

SIR JOHN LUBBOCK'S TAME WASP.—Sir J. Lubbock exhibited a tame wasp, at the recent meeting of the British Association, which he had brought with him from the Pyrenees, and which had been in his possession for about three months. The wasp was of a social kind, and he took it in its nest formed of twenty-seven cells, in which there were fifteen eggs; and, had the wasp been allowed to remain there, by this time there would have been quite a little colony of wasps. None of the eggs, however, came to maturity, and the wasp had laid no eggs since it had been in his possession. The wasp was now quite tame, though at first it was rather too ready with its sting. It now ate sugar from his hand and allowed him to stroke it. The wasp had every ap-

pearance of health and happiness; and, although it enjoyed an outing occasionally, it readily returned to its bottles, which it seemed to regard as a home. This was the first tame wasp kept by itself he had ever heard of.

VITAL MOVEMENTS AND ELECTRICITY.—This subject was part of that of a paper by Dr. C. B. Radcliffe, read before the British Association. The paper was entitled, "Whether the Causes of Vital Movement are yet clearly Appreciated." The paper commenced with a *résumé* of the opinions of ancient and modern writers on the subject of vital movement. He ridiculed the current doctrine which, he said, assumes that vital movements are distinct from those manifested in inert matter, and which can at best be only regarded as a hasty deduction from superficial observations. The highest aspirations of philosophy, he contended, are in direct contradiction to this assumption: and the doctrine of the correlation of physical and vital forces implies a grand centralisation, by which what have been regarded as separate forces are made to appear as various aspects of some central force. Dr. Radcliffe then referred to some investigations which he had recently made with Sir William Thompson's electrometer, and which had tended to confirm the views of Galvani. He mentioned, by way of illustration, a singular experiment that he had made with a strip of India-rubber, coated on the two surfaces with metal, which was elongated by the attraction of two opposite charges; the discharge causing the India-rubber to contract to its original length.

A NEW VEGETABLE INK.—In a recent number of *Les Mondes*, the editor states that experiments are being made to acclimatize in Europe the *Coriaria thymifolia*, or ink-plant of New Grenada. The juice of this plant, locally termed *chanchi*, is at first of a somewhat reddish color, but becomes intensely black in a few hours. This juice can be used for writing without requiring any further preparation; it corrodes steel pens less than ordinary ink, and has, moreover, the advantage of better resisting chemical agents. When the portion of America named above was under Spanish dominion, all public documents were written with *chanchi*, which was not removed from paper by sea-water.

SPONGES.—Sponges have served a wonderful part in the scheme of creation. By the decomposition of their protoplasm, or sarcode, chemical changes have been naturally promoted which have had very important results. The silicates of soda held in solution by sea-water have been precipitated by such action, and the result has been the formation of bands and nodules of *flint*, such as we may see intersecting and alternating in any old chalk quarry. The spongy origin of the greater part of such flints is now regarded as more or less settled. You can hardly chip off a thin flake, but you find it crowded with spicules,

and with the internal casts of the same species of foraminifera as are to be found in the pure chalk. Flint seems to be forming in the same manner now, especially in the deeper parts of the sea. The casts of recent foraminifera and corals have been repeatedly dredged up, to show that the process which subserved such a wonderful end in the cretaceous period, as well as when the chert beds of the older limestones were formed, is still silently going on. Surely we may say of these sponges, as Montgomery, in his 'Pelican Island' did of the coral:—

Slime their material, but the slime was turned
To adamant by their petrific touch;
Frail were their frames, ephemeral their lives—
Their masonry imperishable. All
Life's needful functions, food, exertion, rest,
By nice economy of Providence,
Were overruled to carry on the work
Which out of water brought forth solid rock.

GENESIS OF THUNDER-STORMS.—Professor Palmieri's experiments at his observatory half way up Mount Vesuvius really throw great light on the philosophy of our thunder-storms. Having watched the changes of atmospheric electricity there for nearly a quarter of a century, he believes he has detected their obedience to certain definite laws. One of the facts he has established is, that the electricity of any station is always positive if there be no shower of rain, hail, or snow falling within a distance of fifty miles, and provided there be no projection of ashes from the crater of the mountain. If a shower be falling within this radius, the following law holds good: At the place there is a strong development of positive electricity, round this there is a zone of negative, and beyond this again positive electricity. Should negative electricity be observed during the shower, it will be found to be induced by a more powerful one of positive electricity further away. All this has been ascertained by means of telegraphic communication with both neighboring and distant regions. There is no usual development of electricity except where and when the moisture of the air is being condensed. In a cloud from which no rain is falling there is no greater electrical activity than elsewhere. But the moment aqueous vapor begins to condense into drops, positive electricity is thereby created, and the greater in quantity the greater the precipitation by changes of temperature. When, therefore, this condensation is extremely rapid, a superabundance of electricity accumulates, which must find its way to the negative zone, perhaps, or to the earth below, by lightning discharges—in other words, thunder-storms are produced.

THE AMOUNT OF CAFFEIN IN COFFEE, AND ITS ACTION ON THE BODY.—Dr. Aubert, in an essay contained in the last part of Pfüger's *Archiv*, states that though it is well known that

coffee-berries and tea-leaves contain the same very poisonous alkaloid, caffeine or thein, no researches have been undertaken to show how much caffeine is contained in an ordinary cup of coffee. It is also an open question, remarks the *Lancet*, whether the coffee-berries should be lightly or strongly roasted, though it appears that experience has taught mankind the mode of preparation by which the largest quantity of the alkaloid is best extracted. Dr. Aubert has made a series of researches on these points in conjunction with Dr. Haas. Dr. Aubert's mode of determining the amount of caffeine present in any given specimen is based upon its great solubility in chloroform, and especially in hot chloroform, whilst most of the other constituents of the berry are insoluble in it. His results show the presence of a larger amount of caffeine than that given by most other experimenters, with the exception of Graham, Stenhouse, and Campbell, with whose analysis his own nearly coincided. The quantity he and they obtained is about 8 or 9 per cent. Aubert thinks that a cup of coffee prepared from about one ounce of coffee contains from four to five grains of caffeine. His experiments on the effects of various degrees of roasting show that there is little caffeine lost even when the coffee berries are roasted black; in this respect he is in antagonism with Liebig. He obtains from the best Pekoe tea from 2.149 to 2.423 per cent of caffeine, the greater portion of which is extracted by the simple process of infusion. As regards the physiological action of caffeine, he coincides with previous experimenters in considering that it causes increased reflex excitability and tetanus, the action resembling that of strychnia. If, however, one sciatic nerve be divided before the poisoning, that limb is not convulsed; hence it acts on the nerve-centres. A frog is tetanized by the subcutaneous injection of a quantity not exceeding 0.005 of a gramme. 0.120 of a gramme injected into the jugular of a rabbit tetanizes it, and a cat or dog is tetanized by 0.2 of a gramme. It is remarkable that by maintaining artificial respiration for some time, the symptoms of tetanus entirely disappear. Its action on the heart of mammals is that it causes acceleration of the beats, with diminution of the wood-pressure; this last effect he attributes to the poison paralyzing the ganglionic nerves of the heart.

MAGNETIC DECLINATION ON THE COAST OF ENGLAND.—Staff-Captain Evans of the Admiralty has made a communication to the Royal Society, which is well worth the attention of all who are interested in navigation. It is, *On the Present Amount of Westerly Magnetic Declination on the Coasts of Great Britain, and its Annual Changes*. This magnetic declination is commonly known as variation of the compass, that is, the amount by which the compass-needle varies, from the true north. At present, the variation is to the west of north, and Captain Evans, taking his facts from

recent Admiralty surveys, makes known that the rate of variation is rapidly increasing, and is greatest in amount in the highest latitudes; for example, on the north-east coast of Scotland, and thence to the Shetland Islands. This being the case, it is clear that the compass-bearings, as laid down on charts and sailing directions, must be rectified, if ships and seamen are to escape disaster. Of course the Admiralty will take care that charts properly corrected shall be published; and Captain Evans' paper, with a chart corrected up to January, 1872, will be printed in due time in the *Philosophical Transactions*, so that mariners may provide themselves with safe guides.

The variation, as above mentioned, is not only greater in the north than in the south, but is greater in the east than in the west; thus showing a difference on all our coasts. We may perhaps remark further, that the westerly variation is now, and has been for some time, decreasing; the needle is going back to the north and east, whence, in the next century, another mysterious oscillation will bring it back to the west. — *Chamber's Journal*.

A USEFUL INVENTION.—The material produced by Colonel Szerelmy, and called by the Arabic-sounding name of Zopissa, is a species of paint, varnish, or glue, or rather a substance combining the special qualities of each of these bodies with others peculiar to itself. It can be employed with the facility of paint. It is as preservative of surface and of lustre as the most successful varnish. It holds with a tenacity equal to that of the best marine glue, not only wood, paper, and cloth, but stone, glass, and iron. It is impervious to water. It is incombustible by fire. It is an almost absolute non-conductor of heat. While qualities such as these are enough to give a very high commercial value to a chemical product, the cost of production is said to be very low. We have not space to enter into the interesting details of the manner in which Colonel Szerelmy was led to the discovery of this important material. He believes that it is the very secret that has imparted so imperishable a durability to the sarcophagi, the mummy cloths, and the mural paintings of the ancient Egyptians. There is, it is certain, a wonderfully Egyptian look about the panels, and cloths, and piles, and beams, and sleepers, prepared by this process. Some of them have been for years under water. Some of them have been exposed to jets of flaming gas. They appear to have been little affected by either. Human life is not of adequate length to apply the tests to which the inventor proposes to submit the timbers he has prepared. But when we say that not only a very large proportion of the newspaper press of the country has called attention to the results of experiment, but that Dr. Faraday and Sir Roderick Murchison, in an official report which the House of Commons ordered to be printed on the 16th of May, 1860, bear

testimony to the efficiency of Zopissa for arresting the decay of stone, it will be seen we have reason for expressing surprise that the material has not been brought into universal use. Its value for maritime and military purposes appears to be extraordinary. Opticians and opera-goers know the worth of the new metal, aluminium, owing to its two qualities of non-oxidation and great lightness. A double opera-glass might be made of Zopissa paper, so light that the glass would be the heaviest part, so strong as to be proof against any but intentional injury, and at a cost which would leave aluminium nowhere. Again, for cisterns, pipes, or reservoirs of water; not only can these be made of this material at a third of the price of iron, but the chemical action that is always going on in metal containing water would be obviated, and the great trouble of the winter frost in London and other large towns, the fracture of the water-pipes, would be rendered a thing of the past; owing not so much to the great strength as to the non-conducting quality of pipes made of this cheap material. Space would fail us to tell of the objects to which it might be satisfactorily applied. For vessels it may be made to combine the lightness of timber with the resistance of iron armor. For shoes it is at once light and durable. For cartridge cases it presents to the manufacturer of small arms, and, indeed, to the artillerist in any branch, exactly that of which he is in search.—*From "The Art Journal."*

A MECHANICAL "TELL-TALE."—Many attempts have been made to devise a tell-tale to show whether a watchman has gone his rounds faithfully during the night; but not many have succeeded. Among the latest and best is the one now in use at the Penitentiary, Lausanne, invented by Mr. Cauderoy, which effects its object by electricity. A disk of paper, divided into twelve hours, is set in movement by clockwork. A number of electro-magnets are fixed in front of the disk, and these are connected in the usual way with buttons or keys placed in different parts of the building. These buttons indicate stations on the watchman's round, and he is expected to push each one as he passes it. The push excites the electro-magnet, and releases a pricker, which starts forward and makes a hole in the paper disk. This disk may be placed in any part of the building; in the inspector's office or governor's room; consequently, any neglect or evasion on the part of the watchman is immediately detected.

ART.

THE Long Gallery of the Louvre has lately made the acquisition of a religious picture by Borgognone, whose name was one of the few of the masters belonging to the school of the Italian Renaissance not represented in the museum.

A PICTURE, which is supposed to represent the marriage of Shakespeare and Anne Hathaway has lately come to light in England, and at present is owned by Mr. Malam, of Scarborough. The theory in regard to it is that, if not executed at the time of the marriage, it was painted early in the seventeenth century. In the top corner on the left hand is the legend:

Rare Lynminge with us dothe make appere
The marriage of Anne Hathaway with William Shakespeare.

THE *Cologne Gazette* says that a very interesting discovery has just been made at Fribourg. In removing the whitewash from the walls of the old post-office of that town, some fresco paintings have been discovered, which seem to be the production of Holbein or of his school. The building was formerly known as the Basler Hof, or Court of Bâle, and Holbein was a native of that town. Unfortunately the paintings have suffered serious damage.

CHURCH DECORATION.—One of the chief objects which the supporters of International Exhibitions, local picture-galleries, and kindred institutions have endeavored to promote, has been the creation of an artistic taste among the masses of the people, the repression of that love of coarse and obtrusive decoration which disfigures our buildings and our houses just as much as the "loud" dressing of a certain section of society marks the absence of refinement on the part of those who adopt it. And, to some extent, good results have followed their labors. The aspect of the ordinary English home of the present day presents a decided improvement on the past. Even among the poorest of our population the neatly-framed photograph or chromo-lithograph meets us where once the staring and irreverent German print, with its superabundance of color, was wont to be hung; while among the wealthier members of society the change effected has given rise to the production of suits of furniture on avowedly artistic principles, such as those designed by Mr. Pugin, the eminent architect. To the mere utilitarian, like Mr. Ayrton, there is, of course, something preposterous in allowing such humble domestic questions as the choice of carpets, curtains, and wall-paper to be governed by the rules of the artist, and yet there can be little question that as our houses are places of constant abode, not mere resting-places for the moment, such an attention to detail must conduce to the development of a correct taste in higher matters. The child, for instance, who is brought up in a house where all such points are disregarded, where the functions of the eye and ear are never considered in the home-rule of the parent, where the provision of food and raiment and the early forcing of a new candidate for the labor-market are the only things thought of, can scarcely be expected either to secure such enjoyment in after-life, or to contribute so materially to the pleasures

of others, as the child who is educated on higher principles, and who sees art around him even in the little things of daily life. In a word, then, the recognition of Art in the homes of the people is a thing to be labored for and striven after, and we know of no one, except the purely religious teacher, who conveys more direct benefit to his fellows than the man who brings to bear on the masses the ennobling and humanizing influences of the love of the beautiful.

But while the home may thus be brought within the domain of art, it is in the Church more especially that we naturally look for its highest development. As the Archbishop of Canterbury remarked at the Royal Academy banquet some two years ago, the Church has ever been the friend and patron of the painter, has furnished hint with his noblest subjects, and has consecrated to holy uses his highest efforts. And yet in not a few cases, at the present time, where the æsthetic is ostensibly cultivated, and where large sums of money are annually spent, we fail altogether to obtain that which we desiderate, and have in its place that most objectionable of all forms of decoration—glare. Color of the most gaudy style throughout the building leads the eye at last to a chancel in which there is an utter absence of taste, and where we find what the ecclesiastical penny-a-liner terms a “perfect blaze of light,” as if a blaze were not manifestly a token of gross imperfection. An altar vested in a covering of many colors, without the delicate gradations of the rainbow-tints to soften them to the eye, is in such places laden either actually, or by means of ledges and other contrivances, with a mass of candles of all sizes and shapes, which must be offensive to the taste of any educated person, and can only satisfy the purveyor thereof, who doubtless is of the same mind as an ecclesiastical furnisher who once expressed to us a wish that the Privy Council would issue a judgment against candles, and not simply against the two symbolical altar-lights, on the ground that it would largely increase his trade. Nor does the “glare” end here. Unhappily there is consistency in the surroundings, only it is of the wrong sort. The “blaze of light,” which becomes so trying to the eye that it is not a little likely to produce defective vision the next morning, is accompanied by a still more offensive “blaze of sound” from the choir and the organist, whose performances degenerate into noise, while even the music they execute is in perfect keeping with the way in which it is sung and played. That we are not speaking without due cause, a visit to some prominent London churches, where such a system—totally different, be it observed, from the true artistic Ritualism to be found elsewhere—prevails, will convince any of our readers. We have, in fact, often witnessed this painful exhibition of that very vulgarity which is so loudly condemned when it is met with in the streets in the persons of a vulgarly dressed man or woman, and

which at Oxford is directly personified at Commemoration by the man in the red tie. The cure for such evils is obvious. As a rule, the laity hold the purse-strings, and our honest advice to them is to stop all supplies in cases where such base practices prevail. Decorations let us have by all means, and of the best; but “glare” let us avoid, whether in our churches or our homes. To man it is offensive. To God it is—an insult.—*London Choir.*

VARIETIES.

MR. SEWARD—A CORRECTION.—Mr. Seward's death occurred just as we were going to press with our last number, and deeming the event too important to be ignored in our pages, we selected the obituary notice of the *Tribune* as much the most complete and satisfactory that up to that time had appeared. It is not surprising that a notice prepared under such circumstances as those which meet the demands of the daily press should contain minor errors; but a correspondent, whose position and reputation entitle him to be heard, points out some mistakes which seriously impair the value of the article, and which ought not to go uncorrected. We print the letter below, but without committing ourselves to an endorsement of its statements and especially of its inferences:

NEW-YORK, Oct. 29, 1872.

TO THE EDITOR OF THE ECLECTIC:

In your number for November you have an article on Gov. Seward copied from the *Tribune*, which contains so many falsehoods that I am induced, by my regard for your publication, to call your attention to it. . . . I was elected a member of our Legislature in November 1830, and I served in 1831 in the Assembly. In the fall of that year, I was elected to the Senate and served there four years, namely, during 1832, '33, '34 and '35.

Seward was elected to the Senate in 1830, and served there 1831, '32, '33 and '34, so that I was in the Legislature all the time he was, and three years in the same body with him, and I therefore speak from personal knowledge.

The article says, “during his administration” “imprisonment for debt was abolished.” His “administration” did not begin till 1839, and the act to abolish imprisonment was passed in 1831.

The article says, “He sustained Gen. Jackson in his defense of the Union against Nullification.” The report and resolutions on that subject were brought into the Senate by Gov. Talmadge, from a joint committee, of which I was a member. Their adoption was vehemently opposed by six Senators, Seward being one of them, and the debate, in which he took a part, lasted from a Monday morning till the following Friday, when the report was adopted, Seward voting against it.

The article says “The career of Mr. Seward in the Assembly concluded with an address of the minority to the people in defense of the Whig position.”

Mr. S. never was a Member of the Assembly. The article says, speaking of his election to

the Senate at the age of 29, "Mr. Seward fell naturally into the position of leader of the opposition."

The opposition consisted of seven men, among whom were Albert H. Tracy, of Buffalo, and John Maynard, of Utica, and it was not till their terms expired, two or three years after, that he became leader of the opposition.

The article speaks of him as the "champion of many beneficent measures—of the abolition of imprisonment for debt," &c.

This measure originated in the Assembly, was reported from a committee of which I was a member, and Silas M. Stillwell was the chairman, and met with no opposition anywhere.

But the most remarkable feature of the whole article is this. It was evidently written to conciliate the votes of Seward's friends for Greeley's election.

Before Lincoln's election, Greeley had openly quarreled with Seward and Weed, or, as he proclaimed it, "had dissolved partnership with them." And in 1860, Seward came so near being nominated for the Presidency that it was undoubtedly owing to the volunteered opposition of Greeley that Lincoln was nominated. Yet this article says, "Yet one who in the National Convention received 173 votes had certainly a right to aspire to the coveted office. But other considerations, which subsequent events have fully justified, rendered imperative the nomination of Mr. Lincoln," thus slurring over and justifying the opposition of Mr. Greeley, to which Mr. Seward owed his defeat.

So there are other topics on which the article is equally false; such, for instance, as his being the champion of our common-school system—his being an early friend of the Erie Railway—his being one of the chief promoters of our present efficient militia system, etc., etc."

A PERSONAL GLIMPSE OF THE GREAT NAPOLEON.—Napoleon advanced clumsily, wearing a simple blue uniform, and with his little hat under his arm. Varnhagen shall describe him in his own words: "His bearing expressed the struggle between a will that strives after something and contempt for those who must help him to attain it. He would doubtless have been pleased to make a favorable impression, and yet it seemed hardly worth the trouble of attempting. It would cost him trouble; for truly he had not the gift by nature. Hence carelessness and constraint alternated in his manner, or were sometimes combined in restlessness and dissatisfaction. He first turned to the Austrian Embassy, which formed one extremity of the semicircle. The results of the unfortunate fête gave rise to many questions and observations. The Emperor wished to appear sympathizing; he even used a phrase or two expressive of emotion. But he could not at all succeed in this tone, and dropped it almost immediately. His manner was less gracious to the Russian Ambassador Kurakin, and in the course of his further progress round the half-circle, some sight or some thought must have violently irritated him; for he flew into frightful anger, stormed out horribly against one of those present, (a by no means important personage, and whose

very name I have forgotten,) was discontented with every answer made to him, kept asking fresh questions, scolded and threatened, and held the poor man a considerable time in the tortures of abasement. The witnesses who stood nearest and beheld the scene, not without anxiety lest their own turn should come next, declared afterward that there had not been the least ground for such fury, and that the Emperor had only sought a pretext for venting his ill-humor. They said, moreover, that he was in the habit of intentionally selecting some such poor wight for the purpose, in order that all the others might be cowed, and any thing like a feeling of defiance toward himself crushed into submission. As he passed onward he endeavored to converse with more moderation, but his bad humor made itself felt through all. He spoke brusquely, hastily, flinging down his words, uttered the most indifferent things with passionate rapidity, and even when he wished to speak kindly it sounded, nevertheless, as though he were angry. I have hardly heard so rough and untamed a voice as his. His eyes were deep-set, usually fixed on the ground, and glanced only by fits and starts sharply and rapidly over those present. When he smiled, only his mouth and part of his cheeks smiled; the forehead and eyes remained immovably gloomy. If—as I have sometimes seen on subsequent occasions—he forced these latter to smile also, his countenance wore a still more distorted expression. This combination of smiling and sternness had something about it frightfully repulsive. I know not what to think of the people who found this face 'charming,' and were captivated by his amiability! His features, while possessing undeniable plastic beauty, were cold and hard as marble, strangers to trustfulness, incapable of cordiality. What he said was, whenever I heard him speak, trivial both in matter and expression, without mind, without wit, without power, nay even at times absolutely vulgar and absurd. Faber, in his *Notices sur l'Intérieur de la France*, has spoken in full detail about the questions which Napoleon was accustomed to ask on various occasions, and which have been so often unjustly lauded as showing knowledge and sagacity. I had not then read Faber's book, but later I found every thing I had myself seen and heard confirmed in it. The Emperor's catechising not seldom resembled the proceeding of a school-boy, who, not being sure of his lesson, keeps repeating to himself under his breath what he fears he may otherwise forget at the moment it is wanted. This, indeed, is literally true of a visit Napoleon had made a short time before to the great library, where on the staircase he already began to scream out about that classic passage in Josephus where he speaks of Jesus, and seemed really to have no other care at the moment than to exhibit his (apparently) newly-acquired bit of erudition. It absolutely appeared as though he had learned his questions

by heart. He once asked a man of some consequence from Northern Germany to what country he belonged, and when the gentleman named the place, close on the borders of Holland, Napoleon cried out, half defiantly, half delightedly, as he turned away, *'Ah, je sais bien! c'est du Nord, c'est de la Hollande!'* He did not come off so fortunately with Lacepède at the Natural History Collection. There he took the giraffe for a bird, and spoke of the long-necked beast as such to his wife, who, together with Lacepède, was in a state of consternation at the Emperor's mistake, so much so, that the latter, observing it, angrily broke off his discourse, and went away in excessive dudgeon. The pitiable eagerness with which Napoleon strove to gain admiration in the sphere of social conversation was often downright laughable. He was as unsuccessful in this attempt as—to our misfortune—he was successful in other things. He preferred to make wounding, or at least unpleasant, speeches; but even when he tried to say something different, he only reached trivial insignificance at the outside. For example, once at St. Cloud I myself heard him repeat twenty times to a whole row of ladies the same words, *'Il fait chaud.'* It is true that some vigorous sayings are reported of him, and his orders were generally stern and brief. But even here the power is the chief thing, and the force of the words is due to the Emperor, not to the orator. Many happy sallies which his courtiers were in the habit of attributing to him rightfully belonged to others, who respectfully gave up their intellectual property when it pleased His Majesty to pocket it. The gift of eloquence and agreeable expression which belonged to Alexander, Cæsar, and Friedrich could not co-exist with Napoleon's nature; the quality of his mind, and still more his temperament, forbade it. For this very reason, because he found himself totally unarmed on this sort of battle-ground, was Napoleon above all other men irritable and sensitive to a clever, sharp, or jesting word against himself. And a mocking song, a witty lampoon, could absolutely infuriate him.

"No, it was not in the domains of intellect and fancy, nor by means of eloquent speech, that Napoleon Bonaparte attained his aims. He reached them by his surpassing pre-eminence as a General, and by the iron force of his will. His real greatness consists in these qualities; and it is not needful inventively to attribute any others to him, in order to make him out one of the most extraordinary men who ever lived.

"A divinity, if you will, but a Plutonian, sulphureous, dark divinity; subject at last—as all such are forever—to the superior powers of light. A gloomy, intrinsically unhappy soul. Nothing is clearer to me than that in the midst of his highest triumphs, the man—when we get a glimpse of him as above, beneath the velvet mantles bee-embroidered, and other historical stage properties—was not happy. And there needs no

enforcement of copy-book morality to tell us why."—*Temple Bar.*

THE CHANNEL PASSAGE.—Mr. Henry Bessemer announces that Mr. E. J. Reed is busily engaged settling the details of a pair of vessels, especially adapted to the Channel service between England and France. These steamers are of larger dimensions than the famous Holyhead boats, but will only draw 7 feet of water, and will each be propelled by engines of 750 horsepower nominal, equal to 4,600 indicated horsepower, and, consequently, with their small immersed area of midship section, be capable of running with ease at a speed of 20 miles per hour. They will be provided with a spacious saloon of 50 feet in length by 30 feet broad, and with a height of 20 feet. At each end of the saloon there will be four private rooms for ladies and the same number for gentlemen, the whole being surmounted by a promenade deck of 70 feet in length, at a height of 7 feet above the ordinary deck of the vessel. The whole of these rooms and the raised promenade deck will be so constructed that a "steersman" can by means of powerful hydraulic apparatus govern and sustain the whole structure so completely and quietly that the passengers will not be subjected in the roughest weather to a greater amount of motion than is felt in an ordinary railway carriage; each of the rooms and the promenade deck will be at all times accessible by a broad staircase free from motion and of most easy ascent, so that passengers may enjoy the fresh sea breeze on the quiet, level promenade deck, or, if the weather is unfavorable descend to the saloon below.

SIC FUGIT.

THE drear days wane, the clouded sky
Shows not one star;
The swallows round the old church vane
Dream of afar,

Where fruitful climes and sunny days
Invite their call,
Night quick creeps on, and on the wolds
The shadows fall.

The gray bat flits athwart the eaves
With flapping wing;
The thrush, tired out with even hymn,
Ceases to sing.

Patter the rain-drops on the pane
With measured beat;
The dead leaves rustle 'neath the tread
Of passing feet.

Summer is dead, and Autumn days
Are dying fast;
Three seasons gone, the fourth comes on
Sterner and last!

ASTLEY H. BALDWIN, in "Belgravia."

PUBLISHER'S MISCELLANY.

"THE OLDEST ECLECTIC."

WITH the present number of the ECLECTIC we begin a new volume, the sixteenth of the new series, beginning January, 1865. We are frequently in receipt of inquiries as to when the ECLECTIC began, and how old is the MAGAZINE, as many of our subscribers remember seeing it when they were children and regard it with considerable veneration. We have also noticed in some of the leading papers, more especially the *Nation*, and the *Press of Philadelphia*, a statement to the effect that "*Littell's Living Age* is the oldest of the Eclectic publications," and as this statement has been made use of in some quarters which were in a position to obtain more correct information, we submit the following brief statement of the facts.

In January, 1841, the "American Eclectic; or, Selections from the Periodical Literature of Foreign Countries," was begun. It was edited by John Holmes Agnew, and published by Platt & Peters, No. 36 Park Row, New-York. In 1843 this Magazine took the name of the "Eclectic Museum of Foreign Literature, Science, and Art," edited still by Professor Agnew, and published by E. Littell, New-York and Philadelphia. At the end of the year 1843, "owing to a misunderstanding in interpreting a contract" between the editor and publisher, the "Eclectic Museum" was sold out; but with January, 1844, Professor Agnew commenced the "Eclectic Magazine of Foreign Literature, Science, and Art," which has been published continuously under the same name from that time till the present; Mr. W. H. Bidwell, the present editor, having taken charge of it in March, 1846.

Littell's Living Age was not started until April, 1844, when the ECLECTIC, under its present style and title, had already completed its first volume.

We hope the above facts will settle the question as to which is the oldest of the Eclectics.

It is a good time also to remind those of our subscribers who have not yet remitted for this

year, as well as those whose subscriptions expire with the June number, that we shall be glad to hear from them and append our autograph to any unreceipted bills which they may have received.

THE TRAVELERS INSURANCE CO.—In our notice of this company last month, we made an error in stating that the company issued accident insurance tickets. These tickets are not issued by the Travelers, but by the Railway Passengers Assurance Company, a separate corporation devoted exclusively to this branch of the business. The Travelers issues accident policies covering a period of from one month to a year, insuring the holder against general accidents, a fixed amount being paid in case of a fatal accident or an allowance of so much per week in case of injury. Of the large amount paid out in benefits by the company—\$1,602,822, up to July last—it will surprise our readers to learn that a comparatively small portion was paid on account of the accidents of *travel*, but nearly the whole sum was paid out for accidental bodily injuries to which all classes are more or less liable. The same company also does a large and successful business in regular life insurance, on the low rate all cash plan.

QUICK PASSAGE.—The steamship *Egypt* of the National Line, which sailed from this port April 23d, made the trip from Sandy Hook to Crook Haven, Ireland, in eight days and twenty hours, one of the shortest passages on record. The National Line is composed of some twelve or more steamers, one of which leaves New-York every Saturday, and for safety, room, and comfort, as well as speed, they can not be excelled.

MANN'S REACTIONARY LIFTER.—To clergymen, teachers, students, all our readers in fact whose occupations are of a sedentary character, we commend "Mann's Reactionary Lifter" as the best substitute for regular outdoor exercise that has yet been devised. The apparatus is so simple that it can be used without difficulty by any one; it is based on

sound physiological principles, and we can say from personal experience that the exercise which it gives is more agreeable and inviting than can be obtained from any other apparatus of which we know. Pamphlets and information can be obtained by addressing the "HEALTH-LIFT CO.," No. 178 Broadway.

THE ROAD STEAMER seems to be making practical progress in Great Britain. One of these machines recently made the run from Ipswich to Edinburgh by road, a distance of 450 miles, in seventy-seven hours' traveling time. The engine is one of four now being built for the Indian Government, under Thompson's patent, with india-rubber tires, and is of 14 nominal horse-power, but which has been worked up to 80 indicated horse-power. Her weight is about 13½ tons; length, 15 feet; breadth, 8 feet 8 inches; height to top of chimney, 15 feet. The omnibus weighs about 3½ tons, and seats 21 passengers inside and 44 outside. A Philadelphian has invented an engine which he thinks will travel on common roads, and also do field work, such as plowing, harrowing, etc. It is to have a thorough trial this spring, in Stark County, Illinois.

THE LARGEST ELECTRIC MACHINE in the world is in the University of Pennsylvania. It is of the Holy pattern, with a 36-inch revolving plate, and will evolve an 18-inch spark, which will pierce glass to the depth of 8 inches.

IMMIGRATION FOR 1872.—The returns of immigration for the first quarter of the current year, at the port of New-York show a total, in round numbers, of 28,000, of which 4000 were Irish, while 12,000 were Germans and 7500 were British. Until two or three years ago the Irish kept up with the Germans, but since then the Germans have gone far ahead of the Irish. Those acquainted with the subject say that the Irish immigration hereafter will be comparatively small, while the signs are that the German immigration will attain greater proportions than ever. Immigration from England and Scotland reached unusual proportions last year, and it would seem from the figures just given that it will be still larger this year. The British working classes are now taking an extraordinary interest in America, and though trade and manufacturing industry are now unprecedentedly brisk in Great Britain, the workmen have found out that they have prospects in this

country which they do not enjoy in their own. They make excellent Americans after a short residence here.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the ECLECTIC, or any other new publication, postage paid, on receipt of the price.]

The Mystery of Pain. A Book for the Sorrowful. By JAMES HINTON. New-York: D. Appleton & Co. 16mo., cloth, pp. 101.

A Woman's Experiences in Europe. By Mrs. E. D. WALLACE. New-York: D. Appleton & Co. 12mo., cloth, pp. 315. Price, \$1.50.

Olrig Grange. Edited by HERMAN KUNTZ, Philol. Professor. Boston: Osgood & Co. 12mo., cloth, pp. 208. Price, \$1.50.

Fables and Legends. By J. G. SAXE. Boston: Osgood & Co. 12mo., cloth, pp. 128. Price, \$1.50.

A Brave Lady. A Novel. By the Author of "John Halifax Gentleman." New-York: Harper & Bros. 12mo., cloth, pp. 456. Price, \$1.50.

Annual Record of Science and Industry for 1871. By SPENCE F. BAIRD. New-York: Harper & Bros. 12mo., cloth, pp. 634. Price, \$2.

A Miller's Story of the War; or, the Plebs-cite. By ERCKMAN-CHATRIAN. New-York: Scribner, Armstrong & Co. 16mo., cloth, illustrated, pp. 358. Price, \$1.25.

Lectures on the History of the Church of Scotland. By ARTHUR PERRYHN STANLEY, D.D. New-York: Scribner, Armstrong & Co. 8vo., cloth, pp. 207. Price, \$2.50.

The Desert of the Exodus: Journeys on Foot in the Wilderness of the Forty Years' Wanderings. By E. H. PALMER, M.A. New-York: Harper & Bros. 8vo., cloth, illustrated, pp. 470. Price, \$3.

Lord Kilgobbin. By CHARLES LEVER. New-York: Harper & Bros. 8vo., cloth, illustrated, pp. 208. Price, \$1.50.

A Smaller Ancient History of the East. By PHILIP SMITH, B.A. New-York: Harper & Bros. 16mo., cloth, illustrated, pp. 316. Price, \$1.

Notes on England. By H. TAINE. New-York: Holt & Williams. 12mo., cloth, pp. 377. Price, \$2.50.

The Rose Garden. By the author of "Un-awares." Boston: Roberts Bros. 16mo., cloth, pp. 295. Price, \$1.50.

Mirêio: A Provençal Poem. By FREDERIC MISTRAL. Translated by HARRIET W. PRESTON. Boston: Roberts Bros. 12mo., cloth, pp. 249. Price, \$2.

Principles of Geology. By SIR CHARLES LYELL. Eleventh and entirely revised edition. New-York: D. Appleton & Co. Vol. I, 8vo., cloth, illustrated, pp. 671. Price, \$5.

American Newspaper Directory for 1872. New-York: George P. Russell & Co. 8vo., cloth, pp. 680, 8d Volume. Price, \$5.

PUBLISHER'S MISCELLANY.

RAILROAD PROGRESS.

From *Poor's Railway Manual*, just published, much valuable information in regard to the construction of railroads in the United States can be obtained, and we learn from it the following facts:

"Railway construction began in 1830, when 23 miles were in operation. In the month of December, 1871, these 23 miles had increased to 60,852 miles. The State of Massachusetts has 1 mile of railroad to each 486 square miles of territory, and at this rate New-York and Pennsylvania would have each 10,000 miles of railroad, while Illinois would have 11,000, or more than twice its present number. The average cost of building is \$50,000 per mile, or about \$3,000,000,000 for all the railroads of the country. The increase of business of the railroads is very remarkable—larger even than the great increase of population would seem to warrant, but we have not space for the statistics. The value of railroads to producers is shown by the following illustration: the cost of transporting Indian corn and wheat on ordinary highways will equal 20 cents per ton per mile, so that at a value of 75 cents per bushel for the former, and \$1.50 per bushel for the latter, they will only bear transportation 125 and 350 miles respectively. On a railroad the cost of transportation equals 1½ cents per ton per mile, so that they will bear transportation 1600 and 3200 miles, instead of 125 and 350 miles. This difference is simply enormous, and its value can hardly be calculated.

Is it any wonder, with such results before us, that so many new roads are projected; and when we consider in addition to above the immediate increase of population which follows the opening of a new road, and consequent increased value of land along its line, as well as the increased value of the products of labor, there seems good reason to suppose that the next ten years will witness a still greater increase of railroads than any former period, and that they will be of vast benefit to the country and the world there can be no doubt.

A NEW HEALTH MONTHLY.—The *Science of Health*, is the title of a new and handsome magazine, published at the office of the *Phrenological Journal* in this city. From the first number, just issued, we find that it is devoted to the subject of health on hygienic principles, and opposed to the drug system of medication. The object, however, is to teach the people how to keep well; in this country

where sickness and infirmity are the rule and health the exception, a more extended knowledge of the Laws of Life and the uses and misuses of the familiar agencies and influences with which we are vitally related should be understood. If we knew how to eat, drink, exercise, rest, sleep; how to be clothed; understood the laws of ventilation and temperature, the value and importance of air and light; the reverse of the present condition would be the case, vitality and vigor would be increased.

The new journal is independent, inasmuch as the publisher has no hobby of his own to ride, no professional practice or institution to foster, and his interest must be to serve the people, and do that which shall be for the good of the people. Is published at the low and popular price of \$2 a year; single numbers, 20 cents.

THE NORTHERN PACIFIC RAILROAD COMPANY has completed sufficient track to entitle it to nearly five million acres of the lands granted it by Congress. Some three million acres of these lands, in the thriving State of Minnesota, the company now places in the market. They are to be sold for settlement and cultivation, and we understand applications are already on file by actual settlers for nearly two hundred thousand acres, at prices which, while liberal to the purchaser, prove the company's land subsidy to be quite as valuable as has been claimed for it. As the fertile acres, which shrewd farmers and experienced frontiersmen promptly buy at fair prices, are pledged for the redemption of the first mortgage bonds of the company, in addition to the road and its traffic, the solid character of these securities could hardly have a better illustration.

FRENCH WAR INDEMNITY.—The whole world will be interested in knowing the use which Germany makes of the war indemnity she has wrung from France. The grand totals of the moneys which France is to pay to her conqueror foot up somewhat in excess of 1,441,487,961 thalers. Of this sum, however, France receives back 86,666,666 thalers for the railways of Alsace-Lorraine. The German government, very wisely for its own purposes, has used this vast sum of money first in aiding and restoring

the provinces recently annexed, giving 36,700,000 to persons and corporations whose property was destroyed, and spending 11,440,000 thalers in replenishing the rolling stock on the railway lines, for strategical purposes. Large sums have been paid to the families of the landwehr, 4,000,000 thalers have been distributed among the successful generals, and ten times that sum has been set apart as a reserve fund for the next war. These sums having been expended in repairing losses by the late conflict, and other huge appropriations having been made for the building of fortresses and preparing for future exigencies, something is left to be divided among the several States. Even in this distribution warlike considerations are kept in view, and three-fourths of the whole amount is to be divided in proportion to the number of men furnished by each State.

A VALUABLE AID TO MEN OF BUSINESS AND TO LITERARY PEOPLE.—The publishing house of L. Prang & Co., Boston, hitherto known to the public only through their celebrated chromos, have entered an entirely new field by bringing out "*Schem's Universal Statistical Table*," a publication containing the most important statistical facts relating to all the countries of the world, such as the area of each country, form of government and head of the same, population, expenses, debt, paper money, amount of circulation, standing army, navy, merchant vessels, imports, exports, chief produce, coins and their value in gold, weights and measures, railroads, telegraphs, capitals and principal cities, together with number of inhabitants, etc., etc.

The amount of interesting and noteworthy facts condensed here in so small a compass is almost incredible, and their arrangement on the table, when this is mounted on two sides of a sheet of card-board, as directed, is most convenient for reference and comparison.

Every man of intelligence will welcome this new practical aid to our knowledge of the world's doings, and, we have no doubt, will accord it a prominent place near his writing-desk.

The name of Prof. Schem, the American editor, is a sufficient guarantee that the work has been done most thoroughly and conscientiously. All news and book dealers keep it for sale.

TELEGRAPH.—France has 37,000 miles of telegraph lines; England, 23,000; Russia, 25,000. The United States has 75,000 miles—the equivalent of the three countries named.

BINDING.—We have now ready the bound volume of the *ELECTIC* for the first six months of this year, as well as the others of the new series from 1865; they are in half calf, library style, or in green cloth, two volumes per year. We exchange the numbers of the *ELECTIC* for the former style on receipt of \$2.50 per year, or the latter \$1.50; whenever numbers are wanting to complete volumes, they can be furnished at the usual price.

Persons having numbers of the new series, though not in consecutive order, can generally exchange them with us for such bound volumes as they may wish, by simply paying the price of binding; and we have also made arrangements by which we are enabled to bind any other books for our customers at a moderate price, and shall be glad to fill all orders.

Subscribers at a distance can send their numbers by mail or express, prepaid, to this office, and the volumes will be returned as they may direct, but without expense to us; or we can send green cloth covers, prepaid, by mail, on receipt of 50 cents each, two volumes per year, and the numbers can be inserted by any binder at a moderate price.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ELECTIC*, or any other new publication, postage paid, on receipt of the price.]

Choisy. A Novel. By JAMES P. STORY. Boston: J. R. Osgood & Co. 8vo., cloth, pp. 131. Price, \$1.35.

Rhyme at the Fair, and Other Poems. By ROBERT BROWNING. Boston: J. R. Osgood & Co. 12mo., cloth, pp. 280. Price, \$2.

Is it True? Tales Curious and Wonderful. Collected by the "Author of John Halifax, Gentleman." New-York: Harper & Bros. 16mo., cloth, illustrated, pp. 208. Price, 90 cents.

A Good Investment. A Story of the Upper Ohio. By WILLIAM FLAGG. 8vo., paper, illustrated, pp. 116. Price, 50 cents.

Parturition without Pain. Edited by M. L. HOLBROOK, M.D. 16mo., cloth, pp. 147. Price, \$1.

The Deerslayer; or, the First War-Path. By J. FENIMORE COOPER. New-York: D. Appleton & Co. 8vo., paper, illustrated, pp. 230. Price, 75 cents.

The Sun and the Phenomena of its Atmosphere. By Prof. C. A. YOUNG. New-Haven: C. C. Chatfield & Co. 16mo., paper. Price, 25 cents.

Battle of Bunker Hill. With a Map. By DAVID PULSFORD, A.M. Boston: A. Williams & Co. 16mo., cloth, pp. 75.

A Bridge of Glass. A Novel. By F. W. ROBINSON. New-York: Harper & Bros. 8vo., paper, pp. 116. Price, 50 cents.

PUBLISHER'S MISCELLANY.

THE STATE DEBTS.

An excellent article on this subject in a recent number of the *Financier* gives a revised table of the various State debts, and the rate of taxation, *per capita*, in each state. These figures are obtained from local official sources, and they differ materially from those recently published by the Government—a circumstance which leads the *Financier* to accuse the Administration of bad faith. The total debts of the States, arranged in the order of their magnitude, is as follows:

1. New-York.....	\$37,879,350
2. Louisiana.....	30,344,732
3. North-Carolina.....	30,899,645
4. Massachusetts.....	30,560,664
5. Pennsylvania.....	28,656,876
6. Alabama.....	25,181,967
7. Missouri.....	30,869,000
8. Georgia.....	18,267,500
9. South-Carolina.....	15,851,328
10. Maryland.....	12,436,716
11. Arkansas.....	11,300,000
12. Ohio.....	8,838,408
13. Maine.....	7,212,900
14. Connecticut.....	5,796,300
15. Florida.....	5,307,965
16. Indiana.....	3,987,821
17. Texas.....	3,701,394
18. California.....	3,332,500
19. New-Jersey.....	2,796,300
20. Rhode Island.....	2,770,000
21. Minnesota.....	2,625,000
22. Kentucky.....	2,592,317
23. Michigan.....	2,998,000
24. Wisconsin.....	2,252,000
25. Illinois.....	2,133,000
26. New-Hampshire.....	1,968,000
27. Delaware.....	1,462,000
28. Kansas.....	1,338,675
29. Nevada.....	760,000
30. Vermont.....	412,000
31. Oregon.....	300,177
32. Iowa.....	300,000

The first point in this summary which will attract the reader's attention is the fact that the names of the Southern States all appear very near the head of the list. Texas is the seventeenth on the list, and Florida the fifteenth; Arkansas stands the eleventh, and all the others precede it. New-York, with a population, according to the last census returns, of 4,382,750, has a debt of less than \$38,000,000, or almost \$9 *per capita*, while Louisiana, with a population of only 726,915, and the twenty-first State in the Union as regards the number of inhabitants, has a debt of over \$30,000,000,

or \$41 *per capita*, and stands second on the list. The same thing is true of other Southern States when compared with their Northern sisters. North-Carolina, third on the list, has a population of 1,071,361, and a debt of \$29,899,655, being \$28 *per capita*; in Massachusetts, the fourth State, the same figures are, respectively, 1,457,331, \$29,560,664, and \$22. Between Pennsylvania and Alabama the discrepancy is far more marked. The former state has, population, 3,521,951; debt, \$28,656,876; *per capita*, \$8; the latter, 995,992, \$25,181,967, and \$25. In Missouri and Georgia, the *per capita* amounts are \$12 and \$15; in South-Carolina and Maryland, \$22 and \$16; in Arkansas and Ohio, \$23 and \$3; and finally, in Connecticut and Florida, \$10 and \$28. Proceeding in the same manner, but coupling those States which are nearest alike in population, we obtain the following results. In Louisiana and Maryland the *per capita* amounts are, as given above, \$41 and \$16; or, in comparison with Maine, \$41 and \$11. Comparing North-Carolina and Wisconsin, we have \$28 and \$3 respectively; Alabama and Wisconsin again, \$25 and \$3; Georgia and Michigan, where the variation is only 50 inhabitants, \$15 and \$3; South-Carolina and Maine, \$22 and \$11; Arkansas and Connecticut, \$23 and \$10; Florida and Rhode Island, \$28 and \$12.

This startling condition of affairs, says the *Financier*, can be owing to but one thing—an organized system of plunder by "carpet-bag" governments. To pretend that Southerners would willingly tax themselves so enormously and disproportionately is to advance an absurdity; it can not, and never will be believed. These governments are, to some extent, countenanced by Federal interference, and are responsible for the widespread ruin they have caused, and should be held to a strict account.

METEOROLOGICAL OBSERVATIONS AND WEATHER REPORTS.—We have received from the Signal Office of the War Department, at Washington, copy of the Act, passed by the last Congress, for an appropriation of \$250,000 for the above purpose. It provides for the manufacture, purchase, or repair of the different instruments, for telegraphing reports, for storm signals, announcing approach and probable force of storms, and for all other

necessary purposes connected with the Signal Department.

This is certainly a needful appropriation, and one that will be of infinite value to the whole country. The advantage of these weather reports and storm signals can hardly be overestimated, and they are carefully watched in the daily papers by a large portion of the community, whose plans, whether for business or pleasure, are made accordingly. The accuracy of the probability summary for the past year has really been wonderful, and from close personal observation we have hardly noted a single "probability" that has been materially at variance with the facts.

The amount of actual money value of these reports and storm signals it would be difficult to estimate, as it would have to include the farmer's hay, the merchant's ship, and even the lady's dress, so wide would be the necessary calculation.

UNITED STATES TARIFF AND INTERNAL REVENUE LAW.—Messrs. Harper & Bros. have issued in a neat convenient form, for reference, the Tariff and Revenue Law, as finally amended by the last Congress. The volume also contains full alphabetical tables of the United States Tariff, a table of internal taxes, and a copious index and full sectional notes. From it we learn that the Act approved July 14th, 1870, reduced the taxes and import duties nearly \$80,000,000, and the Act of June 6th, 1872, makes a further reduction of \$53,000,000. These reductions serve to show the enormous amount of taxation we are still paying, and it is to be hoped the next Congress may be able still further to lighten the burden. The compiler of this work, Mr. Horace E. Dresser, has the reputation of being remarkably accurate, a reputation which this volume certainly sustains.

NEW ZEALAND.—We received during the past month from our agent at Auckland, New Zealand, a club of over twenty subscribers to the ECLECTIC, besides orders for bound volumes of the new series. There is now a much more regular mail communication between this country and New Zealand, and its effect is beginning to be perceptible. There is hardly a post-office, however distant, where one or more copies of the ECLECTIC do not find their way. We take great pains in mailing to subscribers at such a distance, and to the credit of the mails we can say there are very few numbers that do not arrive at their destination safely and in good order.

POSTAGE.—The postage on the ECLECTIC is six cents per quarter or twenty-four cents per year, where it is paid quarterly in advance; it must be paid at the office where it is received and not at the office of publication. The postage on transient copies is four cents per copy, and must be paid in advance. The postage on bound volumes of the ECLECTIC is forty-eight cents per volume of six numbers, and in all cases where we bind for our subscribers postage must be sent with the price of binding. We prepay postage on green cloth covers by mail, on receipt of price. It sometimes happens that our subscribers, through the carelessness of postmasters, are made to pay more than above rates, and in all such cases, if they will inform us, we will see that the correct amount is collected.

STREET CARS PROPELLED BY GAS.—Following an invention used to some extent in France and England, San Francisco thinks of introducing street cars in which ordinary illuminating gas furnishes the motive power. At the late Mechanics' Fair, held in that city a gas engine was exhibited by Mr. Ploche, and worked so satisfactorily that Mr. H. H. Robertson has determined to apply it in the propulsion of street cars. It will occupy but four feet square, and may be run twelve hours at an expense of not more than three dollars, and one man may act as engineer, conductor, and driver. It is claimed that no noise, smoke, or danger of explosion will attend its use.

THE well-known Lantern of Demosthenes in the Park of St. Cloud, near Paris, destroyed by the Prussians during the war, is about to be rebuilt as before. It is the exact reproduction of a small marble edifice at Athens, purchased by the Capucin monks, and casts of which had been brought to western Europe.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the ECLECTIC, or any other new publication, postage paid, on receipt of the price.]

The Spy. By J. FENNIMORE COOPER. New-York: D. Appleton & Co. Library Edition. 12mo., cloth, pp. 371. Price, \$1.25.

The Pilot. By J. FENNIMORE COOPER. New-York. Library Edition. 12mo., cloth. Price, \$1.25.

Septimius Felton; or, the Elixir of Life. By NATHANIEL HAWTHORNE. Boston: Osgood & Co. 16mo., cloth. Price, \$1.50.

The Dickens Dictionary. By GILBERT PIERCE, and W. A. WHEELER. Boston: Osgood & Co. 12mo., cloth, illustrated. Price, \$2.

PUBLISHER'S MISCELLANY.

THE SUBSCRIPTION BOOK TRADE.

AN article from "Leypoldt's Trade Circular," containing valuable information in regard to the above trade, as well as some useful hints to the book trade generally, has recently appeared, from which we take the following:

"The agency business is the natural outgrowth of the conditions of life in a country like our own. In its earlier history especially, educational needs called for some such system. The population was small, the available land practically infinite in extent. The people thus dwelt far apart, and in small villages which could not support a book store; and their intellectual demands, in those days of imperfect education, were satisfied by a small number of standard books, chiefly religious. The colporteur was thus the first 'book-agent,' and he did immense good. He was the pioneer of education as well as religion, of the book trade as well as of the church. And there is still legitimate work for the 'book agent' in the sparsely settled regions of the Far West and especially throughout the South. There, particularly, will he find real missionary work again.

"Thus excellent in its origin and its legitimate growth, the book agency business, as it is now for the most part conducted, is simply, like so many other things in the world, an abuse of a good thing. Liquor, tobacco, and opium have done great havoc in the world, but that, while it hides, can not do away with the fact that there are uses for them. In the subscription book business it has been found that so-called 'enterprising' people can, by going from house to house, sell almost any sort of book; and the result has been what might have been expected.

"It is a good thing for the public that 227,000 copies of Kitto's History of the Bible have been sold to them, or that so useful and sound a book as Smith's Bible Dictionary, or so fine an art-work as 'Picturesque America,' should be brought into many homes. But it is not a good thing for the public that five dollar bills—the hard-earned savings, it may be, of weeks—should be extracted from lean purses for such worthless books as many of the scrap-books of poor essayists for whom the regular trade won't publish, or such absolutely wicked and demoralizing volumes as those which either do tell, or salaciously throw out the bait of telling, in as nasty detail as can be ventured, 'The Mysteries of Life in the City of Satan.' A great proportion of the books issued to-day from Hartford, the headquarters of this business for the whole country, are either actually bad or very like humbug. A gorgeous binding, usually in very bad taste, thick but cheap paper, outrageously poor wood-cuts, the largest type with the thickest leads, add up into a very big, gaudy book,

which a glib tongue or persistent boring cheats folks into buying at five dollars, when the reading matter which it contains, if worth any thing, would make about a dollar-and-a-half book in the regular trade. So that the business, as now conducted, is mainly bad."

This seems to us rather hard on the Hartford publishers, and we do not believe that the majority of the publications issued by them can be called bad.

The fact that so large an edition of Kitto's Bible was sold by them, shows that the business is not mainly bad, for certainly the same customers for Kitto could not be induced by any "enterprising agent" to subscribe for the "Mysteries of Life in the City of Satan." And again, if we are correctly informed, the most popular books and those whose sales have been greatest are humorous works, such as Mark Twain's "Innocents Abroad," and "Roughing It," by the same author. If the public can not be induced to purchase books of booksellers in the regular way, it is certainly a legitimate enterprise to send agents to them, at their homes; and the field is as open to the regular trade as to the subscription book trade, and we think with the same energy and effort it will pay them as well. One thing is certain, they need not abandon the field without an effort, and then complain of the subscription book trade for cultivating customers which they neglect.

BRITISH CAPITAL IN U. S. MINES.—The London Railway News publishes a list of eighteen Mining Companies in the United States, to which English capital has been supplied—from which it appears that the aggregate amount of capital offered was \$11,395,000, and the proportion actually paid up is \$3,406,000. The News says, "that the amount of British capital applied for in London during last year amounted to \$325,918,500, about £65,000,000 sterling. During the present year the demand has not been less active, and it may be assumed that, but for recent causes of political differences, investments of British capital in the United States would have been still more readily made. In 1871 there were nineteen mining companies which required \$13,895,000 of capital, eight railway companies applied for \$30,797,000, and the United States funded and State loans amounted to

\$206,689,000. The whole of these proposals were brought out in London. To the foregoing may be added the United States Rolling Stock Company, on the capital stock of which (\$2,500,000) there has been paid in London 20 per cent, amounting to \$500,000.

CHENEY BROS'. AMERICAN SILKS.—The manufacture of silks in this country was for a long time thought to be impossible, and we were entirely dependent on French and English looms and other foreign manufactories for our supply of what is now an indispensable article. The Messrs. Cheney have now, however, solved the problem. They have extensive manufactories both in Hartford and South Manchester, Conn., and, after some years of trial and experiment, have obtained the most perfect machinery, and brought their products to such a state of excellence, that they are fully able to compete with foreign importations, and in some grades—black silks especially—good judges pronounce them to be fully equal, if not superior, to their rivals. The fact that Messrs. A. T. Stewart & Co., of this city, are the wholesale agents of these silks, is a good guarantee of their quality, if any were needed, as they are only agents for the best goods in the market, and besides this they are warranted to wear fully equal to the imported. If any of our lady friends have not yet tried these silks, we are sure we are doing them a kindness in calling attention to their advertisement in the last number of *THE ECLECTIC*. Now that California has demonstrated her ability to produce the finest cocoons, and the Messrs. Cheney have so well utilized their product, we may expect this branch of our industry to assume important proportions in the future of American manufactures, and even to figure largely in our exportations.

THE CHARTER OAK LIFE INSURANCE COMPANY.—Not satisfied with the enormous success which the principle of life assurance has already achieved in this country, the actuaries are constantly studying those subtle financial laws which underlie investments, and every now and then some new method is advanced which vastly increases the utility and attractiveness of the life insurance system. Of late years, especially, we have cut loose from the old rigid and not very scientific method, and have seen such expansion as is involved in the "Dividend Policy," the "Endowment Policy," the "Tontine Policy," and others designed to enable the insurer to participate liberally in

the profits of the insurance, and at the same time to reduce its cost to the lowest possible figure.

The latest of these methods, and the most ingenious, is the plan of "Deposit Insurance," adopted by the Charter Oak Life Company, of Hartford, and advertised for several months past in our pages. We do not pretend to understand all the details of this plan, but it is claimed that it furnishes insurance at much less than the usual rates, makes the best form of endowment, and gives a *cash surrender value at the end of each policy year*. This latter feature is a highly valuable improvement on any of the old plans, and brings life insurance into the list of regular and available investments.

The Charter Oak is one of the old reliable Connecticut companies; has assets to the amount of \$10,000,000, and ranks among the best in the country.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

Principles of Geology. By Sir CHARLES LYELL. Vol. II., eleventh edition. New-York: D. Appleton & Co. 8vo., cloth, illustrated, pp. 652. Price, \$4.

A Guide to Reading the Hebrew Text. For the Use of Beginners. By Rev. N. H. VIBBERT. Andover, Mass.: N. F. Draper. 8vo., cloth, pp. 67. Price, \$1.25.

Herman Agha. An Eastern Narrative. By N. GIFFORD PALGRAVE. New-York: Holt & Williams. 16mo., cloth, pp. 281. Price, \$1.25.

Doctor Vandyke. A Novel. By JOHN ESTEN COOKE. New-York: D. Appleton & Co. 8vo., paper, illustrated, pp. 142. Price, 75 cents.

Medical Electricity. A Manual for Students. By WILLIAM WHITE, M.D. New-York: S. R. Wells. 16mo., cloth, pp. 203. Price, \$2.

The Hygienic Hand-Book. By R. T. TRALL, M.D. New-York: S. R. Wells. 16mo., cloth, pp. 300. Price, \$2.

The Pioneers; or, The Source of the Susquehanna. By J. FENIMORE COOPER. New edition. New-York: D. Appleton & Co. 8vo., paper, illustrated, pp. 199. Price, 75 cents.

The School and the Army in Germany and France. With a Diary of Siege Life at Versailles. By Gen. W. B. HAZAN, U. S. A. New-York: Harper & Bros. 8vo., cloth, pp. 408. Price, \$2.50.

The Brookes of Bridlemere. By J. G. WHYTE-MELVILLE. New-York: D. Appleton & Co. 16mo., cloth, pp. 419. Price, \$1.25.

The Maid of Sker. A Novel. By R. D. BLACKMORE. New-York: Harper & Bros. 8vo., paper, pp. 182. Price, 75 cents.

PUBLISHER'S MISCELLANY.

JOURNALISM IN THE UNITED STATES.

The New-York *Post* gathers from some manuscript table made up in the Census Bureau in Washington, out of reports of the ninth census, not yet published, some interesting statistics illustrating the present status of journalism. The aggregate of the newspapers and periodicals published in this country are 5845, of which 574 are daily, 107 tri-weekly, 115 semi-weekly, 4270 weekly, 96 semi-monthly, 621 monthly, 13 bi-monthly and 49 quarterly. The average is about one to every 6500 of the population. Of the various interests represented, politics engross 4328 of these papers—the estimate, however, included a great number of papers devoted more to intelligence and the promotion of local interests than to general politics. There are 207 technical and professional journals, 502 “illustrated, literary and miscellaneous,” and 20 especially devoted to nationality. The commercial and financial interests have 122 papers, 8 of them daily; agriculture and horticulture have 93, and benevolent and secret societies 81. There are 407 representatives of the religious press, to 6 “sporting,” a hopeful and significant contrast. The question of relative circulation which is most important, is announced in the following tabular exhibit. It will be noticed that the average of the sporting papers is the highest in the list:

	No.	Circulation.	Average.
Political.....	4,328	8,778,930	2,028
Agricultural.....	93	770,952	8,072
Societies.....	81	257,060	3,173
Financial.....	122	690,300	5,657
Literary.....	502	4,421,935	8,808
National.....	30	45,150	2,257
Scientific or Professional.....	207	744,520	3,596
Religious.....	407	4,764,358	11,706
Sporting.....	6	73,500	12,250

The aggregate circulation of daily papers is 2,606,547; average circulation, 4,541. The weekly papers circulate 10,591,743 copies, with an average of 2480.

THE BRITISH POSTAL SYSTEM.—The Annual Report of the British Postmaster-General gives us the following statistics in regard to the Mails:

The total number of letters carried was 915,000,000, an increase of 52,000,000 on the year 1870. The number of newspapers carried was 99,000,000, and of parcels 101,000,000, an increase of 72,000,000 over the year 1870, a fact which speaks well for the growing intelligence of the people. The net revenue,

after paying all expenses, amounted to over \$6,000,000. Of the registered letters, only one in fourteen hundred failed to reach its destination safely, and in nearly all cases, on investigation, the missing letter was found. We would commend this fact to our Postmaster-General as our own experience is that not one in ten investigations of lost registered letters is successfully prosecuted. Owing to wrong addresses, or no address at all being put on, as frequently happens, nearly three and one half millions of letters pass through the returned letter office, but about nine tenths of these were finally sent to correct address. Part of the report relates to the telegraphic system which is now under government control. The government appears to have reduced the price of messages, and the experiment is considered a success. The question of employing female clerks is also discussed, and the conclusions are favorable to their continued employment.

PHYSIOLOGY OF THE EYE AND SIGHT.—

The New-York College of Health, whose advertisement appears in our pages, has issued a pamphlet with the above title, which is as they announce, of practical use to every body. In these days when so much night labor with the eyes is required, it is of the utmost importance to know how to use our eyes without abusing them, and if, from any cause they are beginning to fail, how much better to at once take some immediate steps to restore them than to wait until it is too late. Now, how the sight can be improved and what is the cause of the various diseases of the eye, can be learned by perusing this treatise. The physiology of the eye and the experiments with it are very interesting and are ably treated in the first twelve pages, which are illustrated with cuts. There is also a table taken from standard authority, showing how soon, even the healthy eye, loses its clear vision, and the frequency that one, using spectacles, is obliged to change their power, and it is claimed that by the use of the “Duplex Eye-Sight Restorers,” spectacles can, in nearly all cases, be dispensed with. The practical information alone will repay perusal, and it may be of very great value in saving some one from the quacks which it exposes.

Copies can be procured by addressing, New-York College of Health, in this City.

THE FRENCH BALLOONS.—Only five of the balloons sent out from Paris during the siege were actually taken by the Germans, although, as may be supposed, many had very narrow escapes, sixteen in all falling within the enemy's lines. Two of these there was no chance of saving, for they went right over the hostile territory; one of these unfortunate conveyances descended in Prussia, and the other in Bavaria. Several accidents happened to the aeronauts in their descents, but, if we except two instances of balloons going out to sea, only one of these ended fatally. Of the sixty-four balloons dispatched, fifty-seven reached a safe destination, carrying one hundred and fifty navigators and passengers. The duration of the voyage was on an average, but three hours at the commencement of the service in September, 1870, but as the German troops approached nearer and surrounded the capital more effectually, it was deemed desirable to make a longer journey, and in January the average voyage was between six and seven hours. At this period, too, it was found necessary to dispatch the balloons during the night, so that they might get a fair start and be well out of rifle shot when passing over Versailles and the outposts of the German army. The memorable voyage was that made on the 21st of November, when the North Sea was traversed by a balloon which reached Christiana, after a voyage of some fourteen hours. The distance traveled was certainly not less than 1000 miles and at the rate of seventy miles an hour—beyond doubt the fastest rate of locomotion on record. The balloons themselves were constructed of oiled silk, and mostly contained some 2000 metres of gas. They were designed and manufactured under the superintendence of M. Godard whose fame as an aeronaut was well established before the siege. A number of volunteers from the French navy, chosen for their peculiar fitness for the service, were trained to navigate the balloons. Most of the balloons carried passengers, and generally several hundred-weight of dispatches, together with a basket of pigeons to be employed as return messengers.—*Paris Paper.*

NEW USES FOR GLASS.—It is claimed that glass can be very extensively used in the interior decorations of houses. Mantel-pieces, cornices, brackets and other ornaments can be made of this material, as glass, when of the requisite substance, is scarcely more brittle than marble, and can be molded into any form so that the heavier cost of the material is compensated for the saving of hand labor. The newest invented building material is marbleized glass, which is said to require the closest examination to detect it from genuine marble. It can be made plain, white or variegated, to suit any taste or requirement; and it is claimed that for ornamental house fronts, floors or pavements, this marbleized glass is superior to marble in durability.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

Ebb Tide, and other Stories. By CHRISTIAN REID, Author of "Morton House." New-York: D. Appleton & Co. 8vo., cloth, pp. 166. Price, \$1.50.

The Old Curiosity Shop. By CHARLES DICKENS. "Household Edition." New-York: Harpers & Bros. 4to., cloth, illustrated pp. 282. Price, \$1.25.

A Little Folk Life. By GAIL HAMILTON. New-York: Harper & Bros. 16mo., cloth, pp. 219. Price, 90 cts.

Fifteen Years of Prayer in the Fulton St. Prayer-Meeting. By S. IRENAEUS PRIME. New-York: Scribner & Co. 16mo., cloth, pp. 345. Price, \$1.50.

The End of the World. A Love Story. By EDWARD EGGLESTON. New-York: Orange Judd & Co. 16mo., cloth, illustrated, pp. 299. Price, \$1.50.

Oriental and Linguistic Studies. By Prof. W. D. WHITNEY. New-York: Scribner, Armstrong & Co. 12mo., cloth, pp. 417. Price, \$2.50.

Marjories Quest. By JEANIE T. GOULD. Boston: J. R. Osgood & Co. 12mo., cloth, illustrated, pp. 356. Price, \$1.50.

The Insect World. By LOUIS FIGUIER. Revised by P. MARTIN DUNCAN, F.R.S. New-York: D. Appleton & Co. 12mo., cloth, 579 illustrations. Price, \$3.50.

The Days of Jezebel. By PETER BAYNE. Boston: Gould & Lincoln. 16mo., cloth, pp. 240. Price, \$1.50.

The Marble Prophecy and other Poems. By J. G. HOLLAND. New-York: Scribner, Armstrong & Co. 16mo., cloth, pp. 113. Price, \$1.50.

Premiums Paid to Experience. By EDWARD GARRETT. New-York: Dodd & Mead. 12mo., cloth, illustrated, pp. 378. Price, \$1.75.

Dr. Dollinger's Fables and Prophecies of the Middle Ages. With an introduction by Prof. HENRY B. SMITH. New-York: Dodd & Mead. 12mo., cloth, pp. 468. Price, \$2.25.

The Little Sanctuary and other Meditations. By ALEXANDER RALIGE, D.D. New-York: Dodd & Mead. 16mo., cloth, pp. 334. Price, \$1.75.

California. A book for travelers and settlers. By CHARLES NORDHOFF. New-York: Harper & Bros. Quarto, cloth, illustrated, pp. 255. Price, \$2.50.

The Eustace Diamonds. A Novel. By ANTHONY TROLLOPE. New-York: Harper & Bros. 8vo., cloth, illustrated, pp. 351. Price, \$1.75.

Song Life. For the Sunday-school and Family Circle. By PHILIP PHILLIPS. New-York: Harper & Bros. 4to., pp. 176. Price, 50 cents.

PUBLISHER'S MISCELLANY.

NORTHERN PACIFIC RAILROAD.

THE popular interest in this great work will probably give value to the following notice, showing the progress of the road up to October of this year:

The regular freight and passenger trains have been running for eight months on schedule time over the main line of the Northern Pacific Road, from Duluth to the Eastern border of Dakota, 252 miles; the track is laid and construction trains now run a considerable distance westward across Dakota; all but a small portion of the 200 miles, between the Red River and the crossing of the Missouri is graded; track-laying is progressing at the rate of two miles a day, and by the close of the present season the road is to be completed and in operation to the Missouri river, 200 miles from the west line of Minnesota, and 452 miles west of Lake Superior. All material and equipment are purchased and ready for the completion and operation of this section of the road.

On the Pacific coast, in Washington Territory, a finished section of 25 miles has been in regular operation for some months, and an additional extent of 40 miles is now approaching completion—making 65 miles at the western end that will be in running order the present season. This will give a total of 517 miles of road put in operation in a little more than twenty-four months from the date of beginning work, notwithstanding the necessary delays of the first year attendant upon the prosecution of thorough preliminary surveys and the selection of the best line through a densely wooded region.

A better idea of the real magnitude of the work accomplished will be conveyed by stating that the portion of the Northern Pacific Road, now approaching completion, is considerably longer than the New-York Central Railroad and its connecting lines, extending from Albany, New-York, to Cleveland, Ohio; nearly as long as the combined roads reaching from Portland, Maine, through Boston, Providence, New-Haven, New-York, Philadelphia, and Baltimore, to Washington; and almost one and a half times the length of an air line from London to Glasgow.

THE BICKFORD FAMILY KNITTING-MACHINE.

This new article of household industry seems destined to become as general and as popular as the sewing-machine in our households. This machine will do an almost infinite variety of work of its own class, in plain, fancy, or ornamental styles. Besides the plainer and more useful kinds of work usually done on the machine, it is capable of producing the finest and most beautiful kinds of fancy and ornamental work possible by hand, whether in knitted or crochet work. It also has the peculiar advantage of shaping or forming any kind of article or garment, whether flat, round, or hollow, and of doing so in any possible stitch, pattern, or combination of colors. Thus a family may be promptly supplied with little socks for the nursery, and the most beautiful and delicate needle-work for the drawing-room.

The labor and tediousness of making them has been the principal reason for the limited quantity of articles of knitted and crochet work hitherto in use. There have been but a few rare articles that seemed worth the great labor and time of constructing in this way. But by the introduction of this invention, the tediousness and fatigue of such work is entirely removed, and the crochet and knitted work formerly done in a year may now be accomplished in a few hours. The machine is *designed for ladies*, being small, light and neat, and so highly finished as to retain its place in the parlor or drawing-room.

It should be distinctly understood that the operation of this machine is light, easy, and agreeable, and it can be readily operated by any one.

With it our lady readers can not only manufacture articles for themselves, but if so disposed can assist the poor and destitute in the coming winter with many articles of wearing apparel, for which they would be very grateful. The advertisement will be found on another page. The office and salesroom is No. 689 Broadway, in this city.

THE NATIONAL WIRE MATTRESS.—The Woven Wire Mattress Co., of Hartford, have recently made an improvement in what we always thought was the perfection of sleeping

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accommodation, their regular woven wire mattress. By means of this improvement, any person can change the tension of his mattress to suit his own taste, and we think this is the only mattress in the market of which this can be said. This result is accomplished by means of a wrench, which can be easily applied, and which gives any desired tension. They have also made still another improvement which is called the Folding National, and consists of a hinge in the center of the mattress, by which it can be folded compactly together; and either for shipping, storing or for carrying up a narrow stairway, it is an advantage over the old style. With all these improvements, we think the company ought to be satisfied, and certainly the public are, with their beds. Their advertisement can be found on another page, and further information can be had by addressing the Secretary, Mr. George C. Perkins, Hartford, Conn.

THE NATIONAL DRESS TRIMMING.—The pretty ready-made trimming known under this name forms an economical and stylish ornament for the alpacas and mohairs which continue the staple goods for the million, and will save much from the cost of those elaborate hand-made trimmings which often double the dress-makers' bills. It consists of a puffing fluted on each side, and either plain or with a double row of piping on the edge, and is from one to three inches wide. It is made of the buffalo and otter alpaca and beaver mohair, and is furnished at a reasonable price.—*Harper's Bazar*.

DEBT OF THE UNITED STATES AND GREAT BRITAIN.—The public debt of the United States is about three fifths that of Great Britain, yet the two nations pay about the same amount of interest. The receipts of the United States, the last fiscal year, were \$383,000,000; those of Great Britain in the same time, \$372,705,000. We had, however, a surplus of \$91,000,000—six times that of Great Britain. Our Government annually costs \$166,500,000 beyond interest charges; Great Britain's costs \$224,500,000. All the pensions of the British government amount to five millions; our pension account foots up 34 millions.

THE WEEK.—We call attention to the advertisement of this publication on another page of the advertiser. Among the new attractions promised for the coming year is a new story, by Louisa Parr, author of *Dorothy Fox*, which will shortly be commenced.

EVANS' ADVERTISING HAND-BOOK.—Mr. P. C. Evans' of Boston, has issued his annual Hand-Book for Advertisers for 1872. It contains a list of desirable advertising mediums, including the leading religious, agricultural, and literary publications, and much valuable information for advertisers. Mr. Evans' office is No. 106 Washington Street, Boston, Mass.

BOOKS RECEIVED.

[The Publisher will send any book reviewed in the *ECLECTIC*, or any other new publication, postage paid, on receipt of the price.]

The Wonders of the Yellowstone. Edited by JAMES RICHARDSON. Illustrated Library of Travel. New-York: Scribner, Armstrong & Co. 16mo., cloth, illustrated, pp. 256. Price, \$1.50.

Illustrated Library of Wonders: "The Moon." Translated from the French of Amedee Guillemin. By M. G. MEAD. New-York: Scribner, Armstrong & Co. 18mo., cloth, illustrated, pp. 241. Price, \$1.50.

Incidents in My Life. Second series. By D. D. HOME. New-York: Holt & Williams. 16mo., cloth, pp. 374. Price, \$1.50.

Joseph Noirel's Revenge. By VICTOR CHERBULIEZ. Translated by Wm. F. West, M.A. New-York: Holt & Williams. 16mo., cloth, pp. 317. Price \$1.25.

History of American Missions to the Oriental Churches. By RUFUS ANDERSON, D.D. LL.D. Boston: Congregational Publishing Society. 2 vols. 12mo., cloth, pp. 426, 532. Price,

The Prairie. By JAMES FENIMORE COOPER. New-York: D. Appleton & Co. 8vo., cloth, illustrated, pp. 189. Price, \$1.25.

Thoughts for the Times. Sermons, by REV. H. R. HAWES. New-York: Holt & Williams. 16mo., cloth, pp. 347. Price, \$1.50.

Town Geology. By REV. CHARLES KINGSELEY. New-York: D. Appleton & Co. 16mo., cloth, pp. 239. Price, \$1.50.

Contributions to Molecular Physics in the Domain of Radiant Heat. By Prof. JOHN TYNDALL. New-York: D. Appleton & Co. 8vo., cloth, illustrated, pp. 446. Price, \$3.50.

A Girl's Romance and other Tales. By F. W. ROBINSON. New-York: Harper & Bros. Pp. 123. Price, 50 cts.

David Copperfield. By CHAS. DICKENS Household Edition. 361 pp. 8vo., cloth. New-York: Harper & Bros. Price, \$1.50.

